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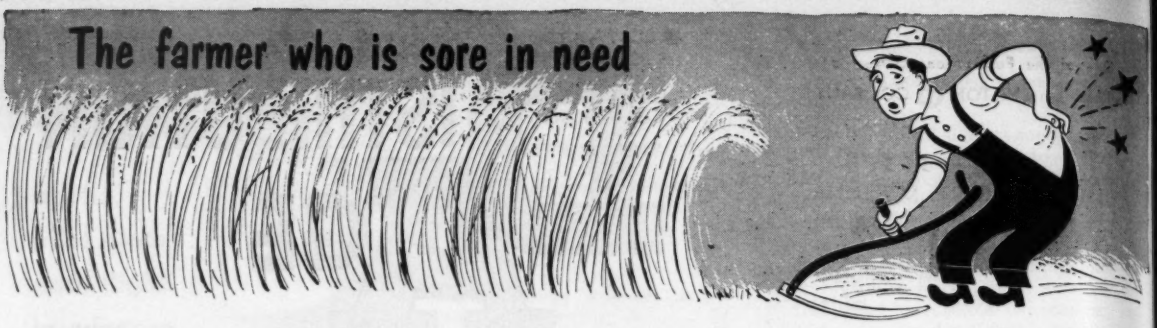

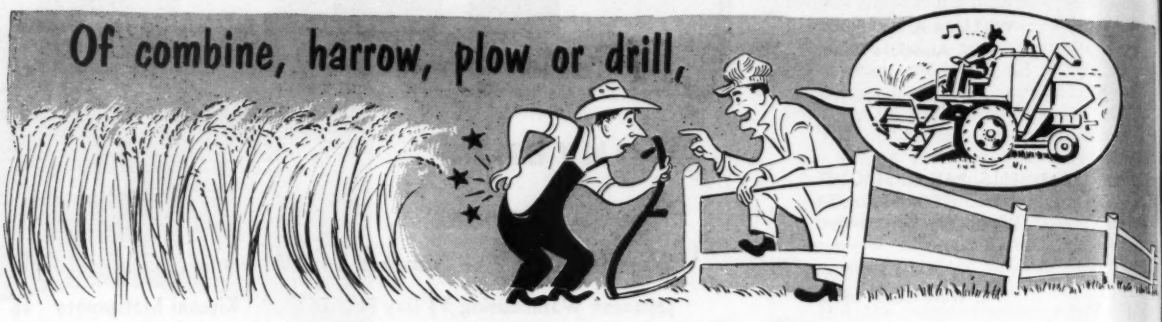

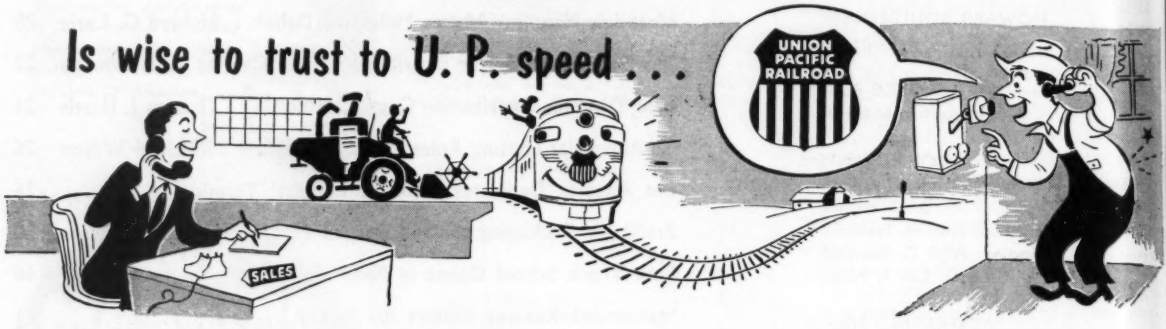

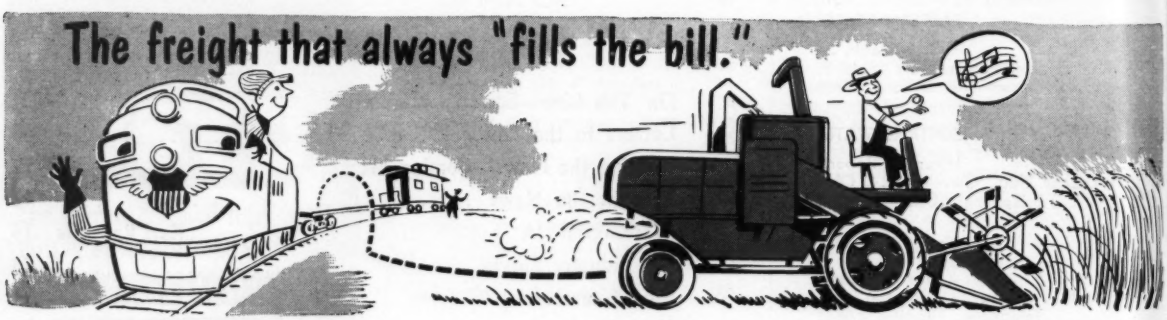

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On the Line DA EDITORIAL COMMENT

Model for Korean Peace

The current Korean Armistice, and approaching peace negotiations, give cause for reflection and speculation.

The one thing we're sure of is that a Korean peace that would bring joy to the Kremlin would enslave the people. That has been the traditional result.

If we are to complete the task thrust upon us, we must see to it that both North and South Korea gain a just and honorable peace. We must win the cold war at the peace table.

We have the experience and the desire to do the job. But on our side of the table will be men who will contribute little to quick, direct action. Because of the insecurity of their own positions, and their own governments, they will curry Soviet good will as well as represent the free nations.

This will not work. Not only will it tend to delay the proceedings, but it will give the Communists a much-wanted opportunity to effect dissent and cleavage among the free nations, and to intersperse the pertinent discussions with barrages of Communist propaganda.

It seems to us that the "weak sisters" at the peace table would exhibit the highest degree of national and personal diplomacy by arranging that their part in the negotiations be conducted by proxy, with the Big Three as official representatives. In this way they could evade Russian political and personal animosity, and the proceedings could move more quickly.

While we know that they will not accept that suggestion, we point to the speed, smoothness and decorum with which the Japanese peace was signed. Of course, Russia was not a participant, and all that both sides wanted was peace with justice and honor—no chicanery, no iron curtain, no slavery.

Japan is rebuilding very nicely, although slowly. A timely article in this issue tells, more forcefully than we can, how Japan is doing in our sphere of business. It was written by a free man, a hardworking warehouseman. It wasn't written secretly, it wasn't smuggled in. No government permission was required to write it. There was no censorship.

Moreover, the article actually invites American business men to participate in the nation's rebuilding by enabling their warehousemen to acquire modern handling equipment.

The author subscribes to, and is free to read, DA and any other American business journal he pleases. There are others like him on our circulation list. With no more red tape than that required of other free men, he may visit our plants, and we may go there.

That's as good a test of amicable post-peace relations we can think of. Can the Russians show a parallel situation?

Yakkety Yak

Judge not a man by his face, his body or feet—he inherited them. Judge him by what he does with them.

. . . LEADS UP: Demand for lead is increasing. We've helped by losing several pounds of sinkers in the Atlantic Ocean.

. . . STEEL DOWN: Even though steel production is considered a business barometer, don't worry about coming declines.

. . . HOT POTATO! Preferred risk setup with proposed reduced auto liability insurance rates seems to put a finger on our wives and offspring. We don't intend to break the news at home till the hot spell is over.

. . . COOL TIP: Good reading for warehousemen and food folks is DTA's new booklet, "Refrigerated Storage—A Look Ahead." It's free! Just address DTA, Wash. 25, D. C.

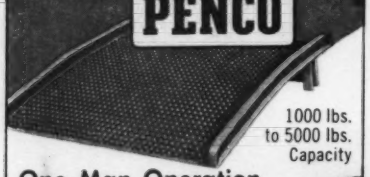
. . . COMMERCIAL: Acceding to demands, we've opened up a Classified Advertising column on the last page. Want a job? Got something for sale? Try a Class-Ad!

. . . AUTOMATIC DUSTER: Westinghouse has a 200-lb substitute for a house maid—Precipitron. It removes up to 90 per cent airborne dust in homes. Works Thursdays, too.

. . . HOLD THE 'PHONE! There will be 50 million telephones in the U. S. by the end of this month. That represents a lot of YAKKETY YAK!

H. V. Greene Editor

Saves Time-Labor
Speeds Performance
MAGNESIUM RAMPS
for TRUCK DOCKS
PENCO



1000 lbs.
to 5000 lbs.
Capacity

One Man Operation

- ★ Light Weight
- ★ Easily Placed in Position
- ★ Easily Removed
- ★ Easily Transported
- ★ Easily Adaptable

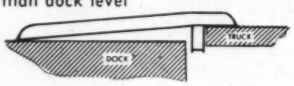
Trucks back within 3 inches of dock

Penco Engineering Co., pioneer Safety Type Ramp manufacturers, presents the most compact, the most simplified, modern and lightweight Magnesium Ramp for all Truck Docks. Instantly put into use—accommodates trucks either higher or lower than dock level. Eliminates platform congestion.

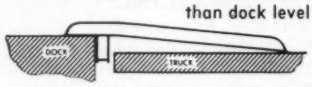
SPEEDS-UP Truck Loading & Unloading Operations

Penco Truck Ramps are all-welded, sturdily constructed of Safety Tread Plate—crowned to compensate for height differences—has beveled edges and safety side rails—meets every safety factor. No adjustments necessary—"STOP" holds ramp securely in position—nothing to get out of order. Hundreds now giving complete satisfaction.

In use with Truck **higher** than dock level



In use with Truck **lower** than dock level



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LETTERS

TO THE EDITOR

Transportation Reference

To The Editor:

The "Transportation Reference" summary of 1953 state legislation affecting trucks and motor carrier operations as published in your August issue is, in our opinion, little less than "terrific."

The distribution of our products increasingly involves truck transportation, and particularly the itinerant trucks. These operators are frequently unfamiliar with the various State length and weight regulations. To insure uninterrupted transit and delivery of these loads, we have been seeking a publication containing such information, and your "Transportation Reference" hits our "nail" right on the head.

W. K. Piper
Traffic Manager
The Farr Co.
Greeley, Colorado

To The Editor:

Having just finished reading the August issue, I wish to take this opportunity to compliment you on the fine reference material in that section entitled "Transportation Reference," which pertains to state size and weight limits, also safety equipment, in connection with the Motor Carrier industry. As a large industrial shipper, this information is very helpful to us.

C. H. Colver
Asst. Traffic Manager
Carrier Corporation
Syracuse, New York

Shippers have been unanimous in their praise of DA's Transportation Reference Section in the August issue. The demand for extra copies has been so great that the supply is almost exhausted. We will continue to send extra copies, one to a reader, while the supply lasts. If the demand continues, however, reprints will be made and all orders for extra copies will be acknowledged.—The Editor.

Destroyed In Transit

To The Editor:

We would appreciate it very much if you would answer the following questions.

If a van load of household goods from San Diego to Washington, D. C., caught fire and the load was lost at Chicago, Illinois, and the carrier paid the liability 30¢ per lb. per article, or the insurance company paid for the shipment as the insured, would the shipper have to pay the carrier for transportation from San Diego to Washington, D. C., or would the shipper only be required to pay the transportation charges from San Diego to the point where the fire occurred?

Harold J. Blaine
Vice President
Lyons Van & Storage Co.
Los Angeles, Cal.

Strangely, although I have read about every higher court case on carrier law during the past many years, I remember none exactly to the point of your inquiry. However, I have read and also written up several cases holding that a warehouseman cannot collect storage charges on goods destroyed or lost, notwithstanding contracts which appear to the contrary. Hence, it would seem as an off hand opinion that a carrier cannot be allowed to collect freight charges on goods destroyed while in transit. On the other hand, if the carrier pays the value of the goods at the point of delivery or the consignee's location, the freight charges then would be included and the carrier may be allowed repayment.—Leo T. Parker, DA Legal Consultant.

Traffic Discussion

To The Editor:

Your very interesting legal articles in DISTRIBUTION AGE has prompted me to write to you in regard to the possibility of obtaining some material which could be used in a Traffic Institute discussion concerning the liability of the shipper and the carrier under the uniform bill of lading.

You no doubt have a very extensive file covering subjects of this kind and perhaps you would not feel it an imposition to furnish me with a number of representative cases revolving around the bill of lading.

F. W. Hashek
Vice President
Yule Truck Lines, Inc.
Milwaukee, Wis.

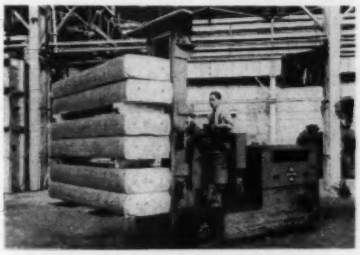
Yes, I have written quite a number of legal articles and discussions involving the liability of shippers and carriers under the Uniform bill of lading. It would be quite difficult for me to know the type material in which you are interested, as I have written up practically all leading higher court decisions on the subject during the past many years. However, these cases are not classified and hence it would be necessary for the writer to review all of these various articles in an attempt to segregate the shipper and carrier cases. However, I shall endeavor to supply you with a few such cases sometime within the next few weeks.—Leo T. Parker, Legal Consultant.

Chuting the NEWS

MHI Clinic in Boston, Oct. 2; 25 Specialists Head Discussions

The second in a series of "Traveling Clinics" on material handling scheduled for 1953 by The Material Handling Institute will convene Oct. 2 at the Sheraton-Plaza Hotel in Boston at the request of and in cooperation with the New England Chapter, American Material Handling Society.

The all-day meeting will be divided into five separate panel discussions, meeting concurrently, according to general types of problems presented such as receiving and shipping problems and multi-storied building problems. A group of 25 specialists, selected from the MHI membership will head the five discussion groups.



A 12,000-lb capacity Elwell-Parker industrial truck is shown moving aluminum ingots at a plant in England. Ingots are unloaded at the plant by an overhead crane with lifting grab and stored by a fleet of fork trucks. They are stored flat in 12-ft piles

Garrett Elected at Movers Assembly; Repeal Asked on ICC Regulation 22

The Movers' Conference of America, meeting in Chicago, Aug. 9-11, elected Russell E. Garrett as its new chairman. Garrett, field manager for John F. Ivory Co., Detroit, Ill., succeeds J. Wallace Fager, executive vice-president of United Van Lines, Inc., St. Louis, Mo., who served eight years as conference chairman.

At the closing session of the annual assembly, a unanimous resolution was adopted approving proposed legislation to repeal Section 22 of the Interstate Commerce Act, authorizing transportation of government traffic free or at reduced rates by common carriers subject to the act.

(Please Turn Page)

Coming Events

Sept. 9—Material Handling Institute, Fall Membership Meeting, Hotel Cleveland, Cleveland, Ohio.

Sept. 10-11—American Society of Traffic and Transportation, Biennial Seminar, Pittsburgh, Pa.

Sept. 14-17—SAE National Tractor Meeting and Production Forum, Hotel Schroeder, Milwaukee, Wis.

Sept. 13-24—First International Instrument Congress and Exposition, Philadelphia, Pa.

Sept. 15—Southern Traffic League, Charlotte, N. C.

Sept. 16-19—Treasury Division, AAR, Mackinac Island, Mich.

Sept. 21-23—Truck Body and Equipment Association, Annual Convention, Hotel Sheraton-Gibson, Cincinnati, Ohio.

Sept. 21-23—Associated Traffic Clubs of America, 30th Annual Meeting, Boston, Mass.

Sept. 21-24—National Association of Railroad and Utilities Commissioners, Annual Convention, New York, N. Y.

Sept. 21-25—Eighth National Instrument Show, Sherman Hotel, Chicago, Ill.

Sept. 22—Southwestern Industrial Traffic League, Houston, Tex.

Sept. 22-26—ATA National Truck Roadeo and USAF National Motor Vehicle Roadeo, Minnesota State Fair Grounds, St. Paul-Minneapolis, Minn.

Sept. 23-27—Local Cartage National Conference, Annual Convention, Chase Hotel, St. Louis, Mo.

Sept. 30—Northeastern Motor Carrier Claim Conference, Baltimore, Md.

Oct. 6-8—National Association of Shippers Advisory Boards, Omaha, Neb.

Oct. 6-8—Fourth Industrial Exposition, William Penn Hotel, Pittsburgh, Pa.

Oct. 7-11—NYSWA Little National Convention, Whiteface Inn, Whiteface, N. Y.

Oct. 8-9—NARW, Annual Fall Meeting of Executive Committee, Muehleback Hotel, Kansas City, Mo.

Oct. 12-14—Packaging Institute, 15th Annual Forum, Hotel Statler, New York.

Oct. 13—National Defense Transportation Association, Annual Meeting and Forum, Louisville, Ky.

Oct. 14-16—The Southwest Warehouse and Transfermen's Association Annual Convention, Texas Hotel, Ft. Worth, Tex.

Oct. 19-23—National Safety Council, 41st National Safety Congress and Exposition, Chicago, Ill.

Oct. 20—College of Advanced Traffic Alumni Association, Annual Reunion, Chicago, Ill.

Oct. 20-22—Society of Industrial Packaging and Materials Handling Engineers, Exposition and Annual Short Course, Boston, Mass.

Oct. 26-30—ATA, Annual Convention, (Conference Meeting Oct. 26-27), Los Angeles, Cal.

Nov. 1-7—Packaging Association of Canada, Annual Convention, Toronto, Canada.

Nov. 4-6—17th National Time and Motion Study and Management Clinic, Sheraton Hotel, Chicago, Ill.

Nov. 5—Southwest Shippers Motor Carrier Conference, Dallas, Tex.

Nov. 9-12—Refrigeration and Air Conditioning Exposition, Public Auditorium, Cleveland, Ohio.

Nov. 9-12—International Soft Drink Industry Exposition, International Amphitheatre, Chicago, Ill.

Nov. 9-13—Montreal Materials Handling Show, Show Mart, Berri Square, Montreal, Que. (Also Montreal Tool and Industrial Equipment Show).

Nov. 16—Southwestern Industrial Traffic League, New Orleans, La.

Nov. 19-20—National Industrial Traffic League, Annual Meeting, New Orleans, La. (Executive Committee, Nov. 17-18).

Chuting the News

(Continued from Preceding Page)

1953 SIPMHE Show Triple Feature Event; Record Crowds Expected at Boston Meeting

An additional 30,000-sq ft has been added to the original show area to accommodate visitors at the 8th Annual Packaging and Materials Handling Exposition. Expected to surpass previous attendance records, the SIPMHE sponsored show will also include the famous technical Short Course and the annual Protective Packaging and Materials Handling Competition.

The SIPMHE-MIT Short Course opens Oct. 19 and continues concurrently with the exposition through Oct. 22. The curriculum will be divided between fundamentals of packaging and materials handling with sessions on advanced and more technical topics. More than 800 registrants were attracted to the course at last year's show in Chicago, Ill.

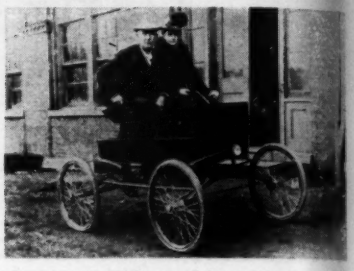
Topics to be stressed specifically include the needs of the armed forces; the methods, materials, and economics of materials handling; arsenal products, electrical and electronics products, machinery and metal products, textiles and mill products, cushioning and corrosion prevention, and problems peculiar to old plants.

Winners in the six divisions of the Packaging and Materials Handling competition will be selected on the basis of safety or degree of product protection; conformance to carrier requirements; ingenuity in the application of materials and methods; ease of handling in assembling and packing, in intra-plant movement and warehousing, in shipping and loading, and in ease of unpacking; economy in the use of materials, shipping weights, transportation charges and prevention of loss and damage claims and complaints; and practical utility.

Huddling over the problems of creating a technical short course that will be of benefit and interest to industrial packaging and materials handling people, are these members of the advisory committee charged with aiding the Massachusetts Institute of Technology and the SIPMHE to create the curriculum. The short course will be presented in Boston in October, cosponsored by MIT and SIPMHE, in conjunction with the annual packaging and materials handling exposition and competition. Shown here are, front row, left to right: John W. Kraus, Thompson Products Co., Cleveland, chairman of the committee; C. J. Carney, Jr., managing director of SIPMHE; Prof. John E. Arnold, of MIT. In the rear row are Walter Hueg of Coro, Inc., Providence, R. I.; Max Hill, vice-president of the new SIPMHE New England Chapter at Boston; Walter J. Byrd, Standard Brands, Inc., New York; Joseph L. Krager, Jr., Radio Corporation of America, Camden, N. J.

Century of Progress

100 YEARS AGO . . .



Thomas A. Edison drives his wife in Walter Baker's first electric auto

In celebrating its 100th anniversary this year, Baker-Raulang Co., Cleveland, Ohio, lists the following milestones:

1853...Baker-Raulang Co. begins when German immigrant Jacob Rauch opens one-man wagon repair shop in Cleveland, Ohio.

1902...The Baker Motor Vehicle Co. gives American motorists first drive shaft auto. Walter C. Baker drives his electric "Torpedo" to a 104 mph world's speed record.

1905...First closed-body auto made in America by Rauch & Lang.

1910...First electric road truck.

1915..."Owen Magnetic" predates other no-shift autos by 30 years.

1922...Industry's first ram truck—a cantilever type self-loader with mast and carriage for lifting loads mechanically.

1924...Baker engineers develop original "locomotive" type crane.

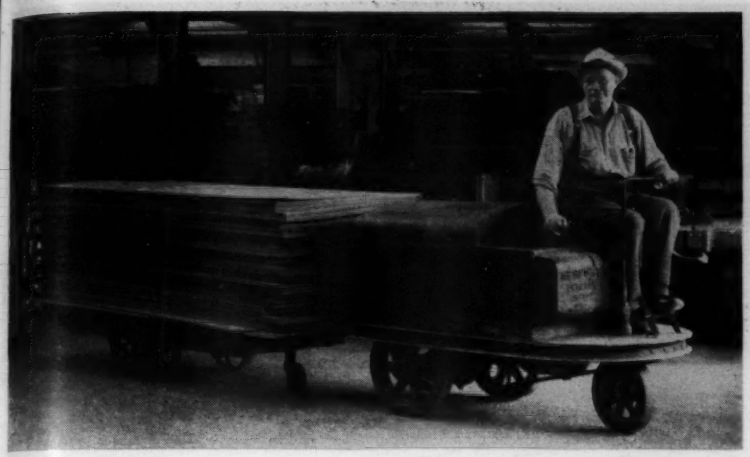
1936...Articulated fork truck, steered by pivoted frame, for narrow-aisle work.

1942...First hydraulic lift for high-lift platform truck.

1953...The "Gas-O-Matic," unique new type fork truck.

TODAY . . .

Baker's Gas-O-Matic has no clutch, gearshift, controllers or resistors



The Elgin Corrugated Box Co. claims some sort of record with its 35-year-old industrial tractor. It has been down for repairs only three times during all those years—twice to replace tires and once to repair three externally damaged battery cells. Purchased by the Schmidt Brothers in 1918 to haul barrel staves in the butter tub plant, this tractor, manufactured by the Mercury Manufacturing Co., now transports corrugated paper for the third generation of Schmidt Brothers. During that time it has moved everything from paper to freight cars

Reject Federal Gas Tax

The 45th annual meeting of the Governor's Conference in Seattle, Washington recently passed a resolution urging the Federal Government to withdraw from gasoline tax field in favor of states as soon as may be consistent with needs of national defense. Gasoline taxes should be imposed by states to finance construction and maintenance of highways, they stated.

—DA—

Lakes Fleet Sets Record

The Great Lakes Fleet in July not only hauled the largest tonnage of iron ore, 14,496,711 gross ton, but set a new all-time mark in the combined tonnage of ore, coal and grain carried in a month —23,523,690 net ton.

—DA—

Transportation Committee

A 45-member committee to work for clarification of federal-state relations, elimination of government competition and reduced regulation in the field of transportation and communication is announced by the Chamber of Commerce of the United States. The committee's program for the 1953-54 year will place emphasis on pending Federal transport legislation.

Buda Considers Merger

A special meeting of the shareholders of The Buda Co., Harvey, Ill. was called this month to consider an exchange of all assets of the firm for shares of Allis-Chalmers Manufacturing Co., Milwaukee, Wis. at the ratio of one share of Allis-Chalmers common stock for 2-1/6 common shares of the Buda Co.

—DA—

New State Toll Authorities

Florida, Illinois, Kansas, Michigan, Nebraska, Texas and Wisconsin have new legislation authorizing establishment of toll road authorities. The new laws provide that construction bonds be paid from tolls and other revenues and are not deemed to constitute debts of the respective states.

—DA—

John Hollmeyer, Jersey City, has been elected president of the New Jersey State Association of Refrigerated Warehouses.

—DA—

40th Anniversary

Crooks Terminal Warehouses, Inc. are celebrating their 40th anniversary. Started in 1913 by Harry D. Crooks, president and founder, today the company has 5 warehouses in Chicago, and 3 in Kansas City.

MEN
IN THE NEWS

Materials Handling

Virgil E. Slater appointed sales manager of the Forker Corp., Cleveland, Ohio. Recently, he was associated with Industrial Crane & Hoist Corp.

F. W. Duke—former district sales representative for Le Tourneau-Westinghouse Co., appointed Western division sales manager.

A. A. Moore — appointed Greater New York regional distributor of fork lift trucks and material carriers manufactured by Gerlinger Carrier Co.

Thomas Hayes — appointed Light Mechanical Development Manager at the Boston Woven Hose & Rubber Co., Boston, Mass.

Donald R. Ward—appointed assistant to the president, Evans Products Co., Plymouth, Mich.

Roger H. Debenham — appointed industrial relations director for Automatic Transportation Co. He will administer company personnel.

Packing & Packaging

Carl Persson—appointed assistant chief engineer, machine design engineering dept.; **Hugo H. Gustafson**—assistant chief engineer, production engineering dept., at the Acme Steel Co., Riverdale, Ill. plant.

Dr. Keith Max—appointed assistant in charge of the paperboard production of the folding carton division, Robert Gair Co., Inc., New York, N. Y.

Traffic

James G. Wilson named traffic manager, M and M Wood Working Co., Portland, Ore. He has been assistant traffic manager since Dec. 1, 1949.

Transportation—Air

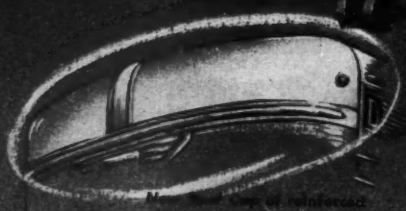
B. B. Gragg—named general manager of sales for United Air Lines. His aviation career began in 1929 when he joined Stout Air Lines, Detroit, Mich.

S. V. Hall—to handle United Air Lines' program of developing ground facilities and **O. T. Larson**—succeeds him as general manager of ground services.

(*Please Turn to Page* 42)

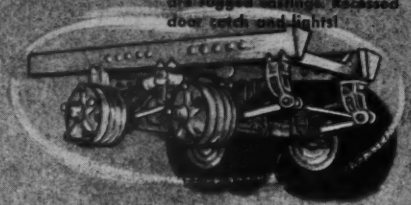
Greatest Dorsey Ever!

With Exclusive New Fleet Chief Features



New door cap of reinforced plastic resists sledgehammer blows without denting!

New Tail Assembly: Bumpers are rugged castings. Recessed door catch and lights!



Smooth-riding, trouble-free Dorsey tandem built by Reyco. All 4 radius rods easily adjustable.

Now, even more strength and serviceability have been built into the new Dorsey vans now at your distributor's. Here's a trailer that invites comparison, point for point, with anything else on the road . . . that invites a road test in your fleet, with your drivers and with you as the judge.

New Features

• Smooth-riding tandem (Dorsey-Reyco) with only 2 grease fittings, has new features making it more than ever "most trouble free tandem on the road" • Rear door catch that can't knock off • New wiring system accessible from exterior • Class A direction signals • Recessed stop lights • Dent-proof roof cap made of the same plastic used for military bullet-stopping armor • Modified side sheet ribs for added strength.

See it now! The New Fleet Chief is available at your Dorsey Distributor.

Dorsey Trailers,
Elba, Alabama

DORSEY TRAILERS

Circle No. 107 on Card, Page 33, for more information

Washington DA

By Karl Rannells, *Chilton Washington News Bureau*

Shipping Prospect

On the basis of first-half reports, Washington believes there isn't much for the transportation segment of the distribution industries to worry about for another 12 months or so. Weight of evidence indicates that any let-down from either the truce signing or stretchout of defense production will be gradual and should be offset by rising trend toward increased civilian demand. These reports seem to add up to something like this:

Railroads: Freight volume has been rising slowly but surely. Tonnage in 1953 should be considerably above 1952. Defense shipping should increase well into next year. Revenue position is forecast as "good" as ICC extends present freight rates through 1955.

Trucking: Highway carriers are steadily taking larger bites out of total freight shipping with present tonnage rate running 10 per cent above last year, compared with 8 per cent for rail. Experts say motor carriers will continue to build tonnage. More postal contracts are in the offing, some for much longer hauls than at present.

Airlines: Domestic air cargo operations have increased as much as 14 per cent through first half 1953, it is indicated, as compared with the 20 per cent increase in overall airways business. Post Office is playing with idea of sending more regular first class mail by air.

Pipelines: It is now apparent that at least 10,000 miles of new pipelines will go into place this year, forecasting a gain of 6 per cent in pipeline traffic for the year. Pipeline mileage by end of 1953 will be one-fourth more than at the end of 1946.

Fast Rates Postponed

The fight being waged by carriers to obtain faster action by the government on freight rate increases now goes over until next January. Congress adjourned without taking action on a bill (S. 1461) which would in effect require the ICC to grant interim increases while it considered rate boost applications by any and all carriers. Carriers claim ICC procedures take too long, resulting in substantial losses.

Rail Rates Continued

Railway freight rates are scheduled to remain at current levels through 1955. Last month, ICC authorized railroads, freight forwarders, and some water lines to continue for 22 months the present 15 per cent increase which went into effect in April, 1952. Railroads had asked that the temporary increase be made permanent but were turned down. The ICC estimated that a return to the former rates now would have meant a loss of $1 billion in annual revenue.

Capital Briefing

Squawks by small business resulted in the Post Office Department throwing out its "all or nothing" policy for buying jute twine. A bidder previously had to furnish the entire amount called for in the bid. Postal officials will now place smaller orders at more frequent intervals in order to let smaller suppliers in on the deals.

• • • Exports to Latin American countries have been simplified by a so-called time limit (TL) license which permits shipment in unlimited quantities of most products on the positive list. License is good for 1 year.

• • • Trade practice rules for the industrial bag and cover industry have finally jelled and were scheduled to go into effect as of Sept. 4, 30 days after promulgation by the Federal Trade Commission.

• • • Congress failed to provide funds for deepening the Delaware river channel to Morrisville, N. J., in spite of the growing industrialization and water traffic needs of the area.

• • • Interstate Commerce Commission has ruled that trucks can't impose a special surcharge on interstate freight to cover cost of special state highway use taxes. These are held to be normal operating expense.

Express Rates Up

Railway Express Agency rates were permitted to go up as of Aug. 20 but not as much as the agency asked. New boost allowed by the ICC works out at about 15 per cent above present levels, compared with the 24 per cent which had been asked. The ICC figured that the full increase requested would have more likely lost business than increased revenues. Assuming no loss of business from higher rates, the new increase is calculated to bring in an additional $55 million annually.

Government Storage

One result of the stretchout in defense production is that the government shortly will be seeking commercial storage for considerable quantities of tools and other capital equipment which will be released as defense contracts gradually terminate. These will be mostly heavy equipment to which the military services hold title.

Juggling of policy gives back to the Defense Department the job of looking after its idled equipment. Present plans are to have companies store some of the items they have been using, leaving as few for commercial storage as possible. Army alone will have as many as 60,000 items idled by the end of 1954 and is earmarking $12 million out of current funds for renovation and storage costs.

(*Please Turn to Page* 58)

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DA
FEATURE ARTICLE

Wage Incentives Cut Costs Boost Production

Latest DA Survey shows that employes react favorably to making extra money, with major gains for employers. Transportation and warehousing firms make poor showing

A LITTLE over 56 per cent of major American industries, in the DA Industry Survey on Wage Incentives, report having such plans in effect. They represent a very broad cross-section of business, including transportation and warehousing—fields in which incentives have little acceptance.

Incentives in 80% Plants

The manufacturing industries show 80 per cent using some type of wage incentive; transportation and warehousing, 25 per cent.

Actually, these percentages seem high, as representative of all American industry, even in this enlightened age. However, this does not invalidate the survey. The conclusion to be drawn is that the DA data apply to what might be called the upper strata of these industries —as, indeed, the majority of the respondent companies in this survey include the famous names in industry.

(Incidentally, about 10 per cent of the replies in this survey came from foreign countries. More than half were readily identifiable as American-owned or American-operated; in all probability also the "upper strata" in their fields in those lands.)

The data on foreign plants were not included in any of the figures mentioned, nor will they be. But it may be of interest to mention that every foreign respondent reported the use of some kind of wage incentives.

Benefits of Incentives

One of the principal questions in this survey asked for actual benefits accrued from wage incentives. Of all reported, *higher production* and *lower cost* were tied for first place.

There also was a tie for second place—*reduced manpower* and *better labor relations.*

Third place goes to *better workmanship.*

Many of the incentive systems employed are plant-wide in effect, using an overall production goal. Individual and group plans also are in use, in that order. However, the majority of the plants employ a combination of those systems.

Of the various forms of payment employed, the bonus method is in the lead and the individual piece-work system in second place. Quite a few firms reported using a combination of both types.

Direct labor is the principal beneficiary in most cases, although indirect labor had a good showing, mostly in plant-wide plans.

Average Duration 10 Years

The wage incentive systems reported have been in effect for as brief a time as six months and for as long a period as 30 years. The average comes to about 10 years.

It was interesting to note that all respondents in the manufacturing industries that did not employ incentives declared their intention to do so. This was just the reverse for the respondents in the transportation and warehousing industries, where Union contracts seem to be the principal obstacle.

Another interesting fact reported is the existing ratio of direct to indirect labor. In the manufacturing industries, the range is from 95 per cent direct and 5 per cent indirect to 45 per cent direct and 55 per cent indirect. In the transportation and warehousing industries, the range is from 90 and 10 to 50 and 50.

The overall conclusion to be drawn from this study is that wage incentives, regardless of type, are profitable for both the employer and employe, but—small businessmen note—that their principal exponents are BIG BUSINESS. •

This view of an airplane parts warehouse located in the Yamashita-cho industrial district of Yokohama shows the results of American bombers

Japanese Warehousing V

Japanese Warehouse Handling Equipment

1. Cranes—mostly from one-half to 3-ton capacity, larger models are used only by specialists in heavy cargo.

2. Elevators—from 2,000-lb to 8,500-lb capacity.

3. Derricks—from one-half to 5-ton capacity, some combined with movable winch, others with immobile winch.

4. Telpher—the monorail telpher's lifting power in most cases is one ton.

5. Whip Hoists—one or two ton most common capacity.

6. Conveyors—usually belt type, five to 10-hp drives.

7. Stackers—gaining in usage, one-half to one-ton generally. The need for wider aisles in comparison to aisle width for hand carts is the chief drawback.

8. Fork Trucks—most recent addition, highly desired, but initial expenses too great for most warehouse profit margins.

Equipment manufacturers are invited to read the author's appeal for equipment information appearing at the end of this article.

ON SEPTEMBER 2 the people of Japan marked the eighth anniversary of the surrender of their country to the Allied Nations. The 8-year interim since VJ Day has been, paradoxically, both kind and unkind to the Japanese warehousing industry.

Warehousing space has more than doubled in the eight years. The surviving space on VJ Day totalled some 674,000 tsubos. (One tsubo equals 36 sq ft.) Today's figure is more than 1½ million tsubos, or 880,000 tsubos higher than the surviving figure.

Little Improvement

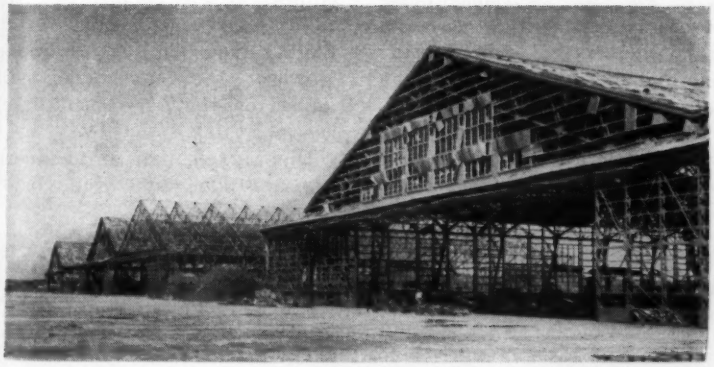
On the face this appears to be, and in some respects is, a remarkable recovery. There has, however, been very little betterment in warehouse construction or facilities, or in warehouse handling techniques. As a result, the in-

Wire cable stored in the freight yard at Osaka, Japan, was virtually destroyed when American planes dropped tons of inflammable fire bombs

Japanese warehouse space is at an all-time high and the profits are good, but new construction is at a standstill and handling methods and facilities are antiquated

VJ Day + 2622

By Kiyoshi Matsumoto



This aircraft parts warehouse and hangar at Yamoto Airstrip was damaged by a U. S. carrier based raid which left only the steel girders

dustry may not be as healthy as its space record would seem to indicate.

A number of reasons are given for the rapid expansion of total space since the end of the war. Some of those reasons follow:

1. Continued air raids burned or otherwise destroyed 32 per cent (13 million sq ft) of pre-war warehouse space. When hostilities ended there was no place to receive that goods which had been stored in caves, temples, school buildings and other makeshift areas for the duration.

2. Procurement of warehouses by the U. S. Occupation Forces after VJ Day cut down considerably on the space available for public use.

3. Inflation, an unavoidable war by-product in any defeated country, offered a profitable stimulus to lay people whose commercial capital had left its ordinary course of circulation. These people put their money in public warehousing on the assumption that capital invested in real estate holdings is more secure than cash deposits in a changing economic structure.

4. The post-war depressed market prompted manufacturers to use their war damaged and idle manufacturing plants as warehouses.

5. As storage computation was based on an ad valorem structure, a good earning could be realized through prevailing inflation, thus attracting many non-warehousemen into the business.

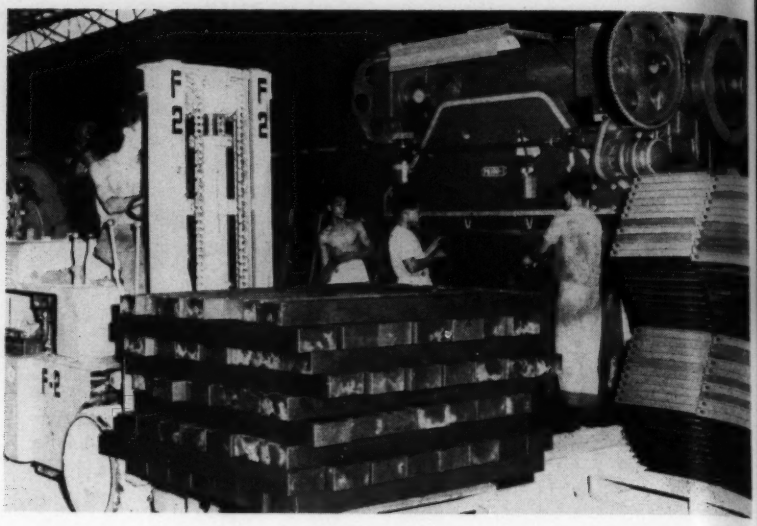
Mechanization Ignored

Prompted by these reasons, immediate space became the only aim in Japanese warehousing. In the quick space grab, one basic warehousing principle was ignored. Mechanized cargo handling and the safe custody of goods in warehouses were completely bypassed.

Although the development of mechanized handling has been slow, the Japenese warehousemen have learned a valuable lesson in this respect from U. S. Occupation Forces.

Until the end of the war cheap manual labor was the operating rule in Japanese warehouses. Inflated wages forced the warehouseman to make at least some attempt to mechanize his installation. However, the high cost of most US handling machinery in com-

(*Please Turn to Page* 49)



A 6,000-lb fork lift, one of three, is shown moving palletized load of electrical fixture cases from a 100-ton press brake to cleaning and painting area

Materials Handling M

Fork lifts, mechanized and gravity-fed roller conveyors, plus hydr

FOR THE first time an industrial plant has been built in the Philippines that features an intelligent use of materials handling equipment. It is the new $600,000 Ysmael Steel Mfg. plant erected on the outskirts of Manila. This is the first cold-rolled sheet metal fabricating plant ever built in the Philippine Islands.

There are approximately 100 small metal plants in the Philippines, but outside of the sugar centrals and the beverage plants, there has been very little use made of handling equipment.

The Ysmael operation may be a significant factor in pointing towards future sales of materials handling equipment to the Philippines. As this is a new industry, the local government is out to protect its development. There is a move on to ban the importation of cold-rolled products from abroad (especially the United States). At least three other cold-rolled fabrication plants have also started in Manila.

Current Schedules

Finished in May, 1952, the Ysmael plant's current production schedules call for a daily output of 70 four-drawer legal-type filing cabinets (or their steel equivalent in other cold-rolled products), 200 standard-length double industrial flourescent lighting fixtures and 15 six or seven cu ft electric household refrigerators.

Why did management decide on materials handling equipment? Philippine labor is a relatively small part of total production costs. For example, Ysmael press operators receive 37.5 cents an hour. Incidentally, the company pays higher than the local union wage scale.

The building itself, through its own construction, provides a partial answer. It is made from three war surplus airplane hangars. There is no snow-load problem in a tropical country. Consequently, all production units and the three assembly lines are housed in an area 150 ft wide and 450 ft long without a single supporting post to obstruct the movement of materials. Secondly, management felt that the use of fork-lifts and conveyor systems would cut costs, move the parts in relative safety and decrease worker-accidents.

Three Fork Lifts

The 30 presses and six shears are fed by three 6,000-lb capacity fork-lifts. There are gravity-fed roller conveyors between the machines. It was decided to install roller conveyors because of the limited run on each product. However, the conveyor is mechanized on the fluorescent fixture assembly line.

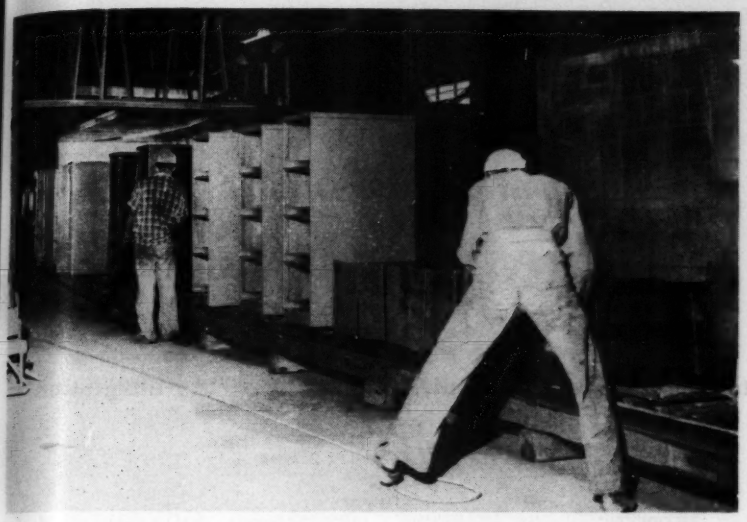
Dipping, cleaning and bonderizing are done by three electric hoists.

There is a 260-ft endless conveyor for painting and baking work. It runs at a speed of three feet per minute into:

1. A water-wash spray booth for prime coating;
2. An infra-red oven, 30 ft long that has 375-watt bulbs with aluminum reflectors;
3. A finished-coat paint booth;
4. A 40-ft infra-red oven.

Should more than one coat of paint be necessary, the fabricated product is automatically returned for a second conveyor trip.

Two hydraulic loading platforms are located on the concrete apron



A 260-ft endless gravity-fed roller conveyor moves filing cabinets and other office equipment at speed of 3 fpm into paint-spray booths and baking ovens

By Richard G. Lurie

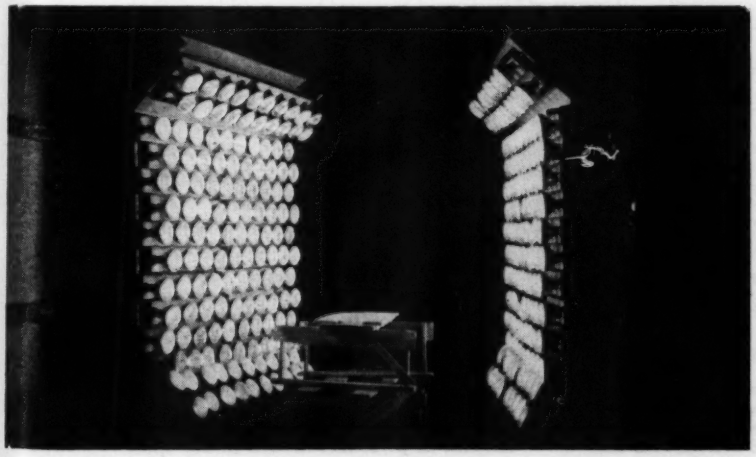
g Makes Philippine Debut

hydraulic hand lift trucks and loading platforms make this steel plant most modern in Islands

outside the plant. These are the first ever to be built in the Philippines. One is used for raw materials such as incoming steel sheets; the other is for the outgoing finished product. Hydraulic hand-lift trucks are used in conjunction with loading.

Ysmael is already selling filing cabinets to the Philippine Government at 136 pesos ($68). The U. S. imported product sells for 315 pesos ($165). Its double industrial flourescent fixture, including bulbs (also made locally) sells for 27 pesos ($13.50). The U. S. counterpart sells in Manila for 46 pesos ($23).

This view shows the gravity-fed roller conveyor entering first section of infra-red oven 30 ft long for primary bake of synthetic enamel on equipment



Island Engineered

Interestingly enough, the two engineers who laid out the plant have never been to the United States. They begged, bought or borrowed every book and technical and trade publication on the subject they could find. These books and magazines guided them.

They both feel that there is a tremendous future for most kinds of materials handling equipment in the Philippines. However, they pointed out that there is a huge surplus of war-time fork-lifts still in the Islands. A good reconditioned 3-ton fork-lift sells for as low as $2,000.

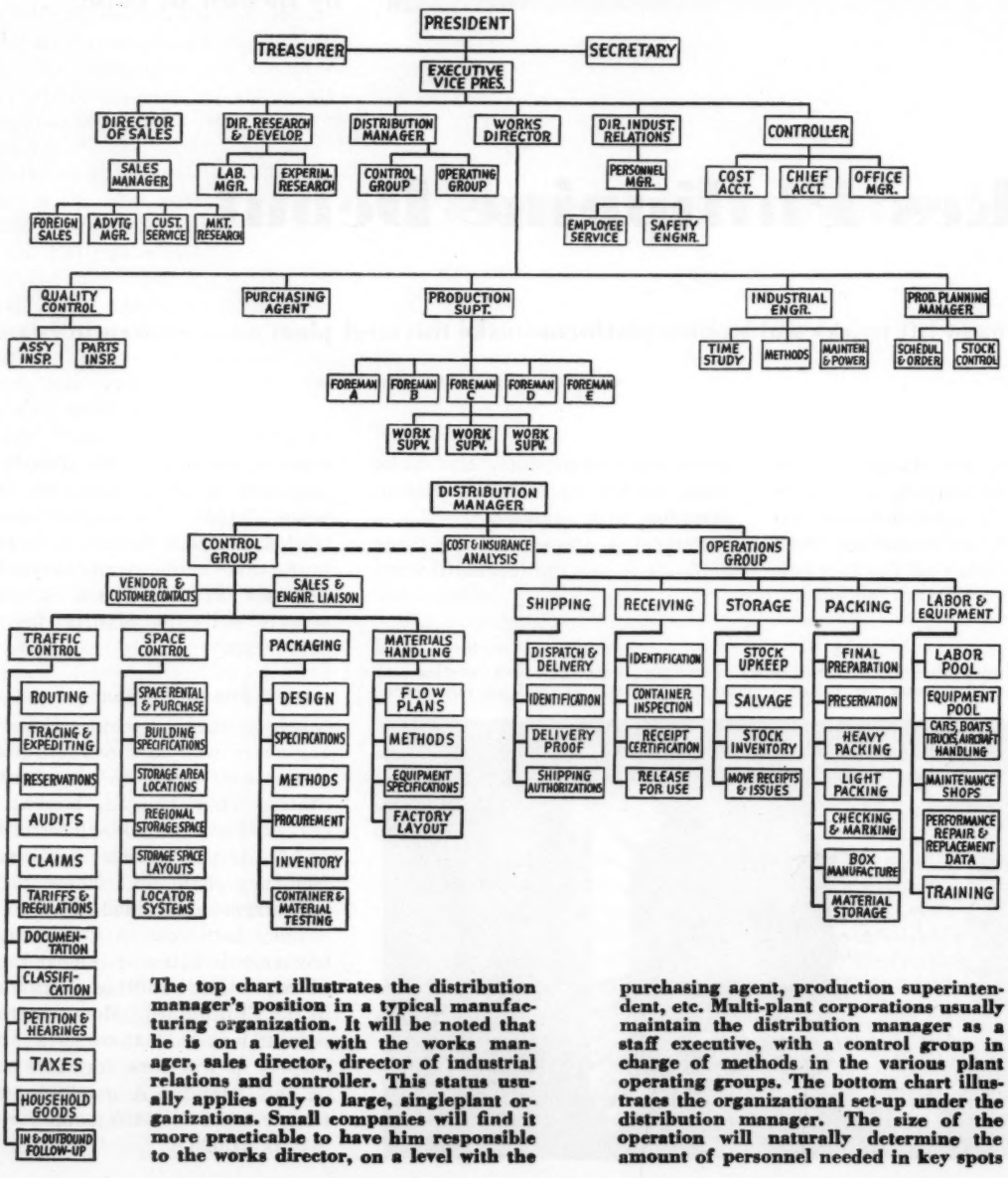
Integrated Operations:

The Solution To

By Charles A. Herrmann

Mergenthaler Linotype Co.
Brooklyn, New York

The next most important industrial cost reduction front, distribution is the integration of



The top chart illustrates the distribution manager's position in a typical manufacturing organization. It will be noted that he is on a level with the works manager, sales director, director of industrial relations and controller. This status usually applies only to large, singleplant organizations. Small companies will find it more practicable to have him responsible to the works director, on a level with the purchasing agent, production superintendent, etc. Multi-plant corporations usually maintain the distribution manager as a staff executive, with a control group in charge of methods in the various plant operating groups. The bottom chart illustrates the organizational set-up under the distribution manager. The size of the operation will naturally determine the amount of personnel needed in key spots

Better Distribution

traffic, storage, packaging, handling and transportation

DISTRIBUTION management is recognized as the field which covers management's growing appreciation of the functions of movement of raw materials from supplier to manufacturer, and of finished product from manufacturer to purchaser.

The field however, is larger than the movement of supplies from point to point would indicate. It is the integration of all aspects of the traffic, receiving, storage, packaging, materials handling, shipping and transportation services.

These are the basic distribution functions, and although they are acquiring centralized administrative status where they are thoroughly understood, emphasis and explanation of what is conceded to be the next important industrial cost reduction front must continue.

War Beginning

A careful analysis of the trend will reveal its beginning just prior to World War II, when large scale government procurement and storage facilities had to solve the enormous distribution and operation problems created by their expansion for war.

In those early stages hope and reliance were placed on the handling equipment industry. Fortunately, their performance was spectacular. So much so that the development of new equipment actually ran hand in hand with a clamoring dependence upon new equipment for movement of the weight of our effort to the war fronts. Planning of movement patterns and handling systems dominated the field, and machine applications took hold again where few thought it possible.

Handling Switch

During these years the materials handling specialist very rapidly changed his field. Formerly his efforts were restricted to motion study and to various types of conveyors and chutes for loading and feeding machines or areas. Now his scope is broadened to include movement of materials from source of supply to his plant, through it, and to the consumer.

Here the post-war enlargement began, and here the materials handling man realized two things. One, he required the cooperation of men in related fields, and two, for efficient administration of his job he had to either manage or submit to management jointly with packaging, traffic and storage managers.

Because of their large volume a few companies were quick to realize the need for centralized management of these functions. Many companies, however, merely added another vertical division or assistant for materials handling. This initial failure to consolidate functions now is a source of confusion, duplication, waste, and conflicting demands.

To resolve it the unified Operations Department is being chosen to organize and administer the operation and refinement of the handling, storage, traffic and packaging functions. The logical dependence of these functions on each other and the advantages gained by their joint administration are easily appreciated if a general analysis of each function is available.

Traffic Function

Traffic is chosen as the first function because it reaches first into the movement pattern. The procurement of materials is followed by its transportation inbound and this transportation should be arranged professionally according to urgency of need, availability and cost, consolidation possibilities and, lately, the availability of adequate carrier tracing facilities.

Traffic also includes the description and classification of materials as necessary to obtain lawful rate advantages, routing and expediting of outbound shipments, application of tariffs, recommendations for insurance, filing claims, auditing freight bills, submission and argument of tariff changes, and supervision of import-export forwarding.

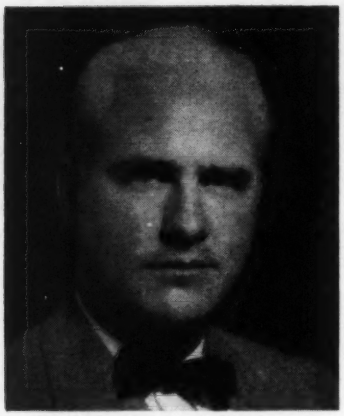
Notice here that the functions listed are "pure" or "office traffic" functions and are differentiated from those which would be included in a more comprehensive department containing receiving, shipping and transport sections. In both cases the application of traffic control principles to the other operations functions is vital and continuous.

The receiving section's responsibilities include those operations which directly affect new materials. Receipt from carriers and inspection for container or other damage, followed by identification of the material and association with purchase records or receiving authorizations is the basic procedure.

Materials are then reported, handled, segregated, and distri-

(*Please Turn to Page* 44)

Long Distance Distribution



By Thomas J. Harris
Manager, Cargo Sales
American Airlines

Time element in air vs surface transportation is charted by this unique map. Air shipment from New Jersey would arrive in L.A. in the time it would take surface shipment to reach Pittsburgh. Airlines claim relatively high cost of their service is offset by elimination of other distribution expenses

Don't apologize for high distribution costs,

SIX Years ago DISTRIBUTION AGE conducted a survey in which the following question was asked:

"Approximately what percentage of your overall distribution cost is represented by each of the following—materials handling, packing and packaging, transportation, finance, insurance, marketing, warehousing, and service and maintenance?"

Only 13 per cent of those participating were able to answer this question.

Twenty-two industries were represented among the firms that did answer. Of those, it was found that only a few could give a complete or detailed breakdown. Only six of the 22 were able to separate distribution costs into each of the eight basic distribution functions.

The Lion's Share

Out of today's manufacturing dollar, 59¢ goes for distribution, compared to 41¢ for production. This figure has led to severe criticism of current distribution methods, despite the important part played by distribution in lowering overall costs and increasing the standard of living.

Admittedly distribution costs are high, but perhaps they wouldn't be so high if we spent less time and effort attempting to justify them and more time and effort attempting to lower them.

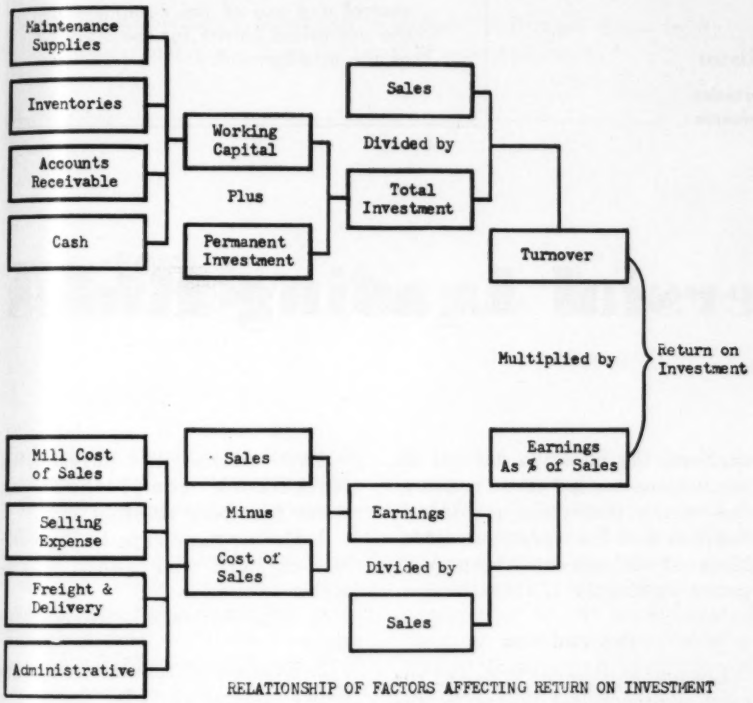
20th Century Study

The Twentieth Century Fund Study on Distribution Costs points out, "Some of the high costs of distribution excused by distributors on the ground that 'competition forces me to do it' are really due to ignorance of their own costs. Distribution in the modern sense of merchandising and demand creation is of recent origin.

"It has developed rapidly an amazingly effective technique in selling a multitude of new and varied products, but, in the hectic struggle to educate the consumer and sell

Costs Can Be Cut

costs, make an honest attempt at lowering them



RELATIONSHIP OF FACTORS AFFECTING RETURN ON INVESTMENT

more goods, distribution has lagged behind in the application of scientific methods to the study of operations and the control of costs."

For the past nine years, American Airlines has studied this problem. From the start of our airfreight service in 1944, we have recognized that the movement of goods by air was likely to continue to be much more expensive than all but the highest cost surface services. Accordingly, we have realized that we could find increased opportunities for our airfreight service only as we discovered economies in other distribution costs which would offset the higher charge involved for airfreight.

Lack of Knowledge

The most significant finding has been that surprisingly few firms have a sufficient knowledge of their distribution costs to effectively control them.

Even among firms with some detailed cost figures on their distribution functions, there is rarely any basis established for managerial decisions which involve changes in relationships between the various cost elements involved. Only a very few firms have readily available information on the relationship existing between costs, volume, prices, and profits.

Under such circumstances, progress in developing new users of airfreight on an economic basis has been slow. At the same time, results so far have been encouraging, because in an extraordinarily high percentage of the cases studied, we have found that the use of airfreight has, in fact, effected savings in other distribution costs that more than offset the extra transportation charge involved.

One of the best ways to examine these relationships is to construct a model of the business which will equate all of the cost—volume elements in terms of return on investment.

For a number of years, du Pont has used such a system to provide a basis for decisions by their executive committee. This system is described in the Financial Management Series No. 94 of the AMA.

The system is more recently described in Section 3 of the National Association of Cost Accountants Bulletin of August, 1952. This chart is reproduced for DA readers on this page.

Computing Returns

By projecting the effect of changes in one area on the figures for another, it is easily possible to compute the end result on rate of return on investment. If, for example, an existing turnover rate of 4½ is increased to 6 by a 60 per cent reduction of inventory made possible by using airfreight, while the added cost of transportation reduced profits as a percentage of sales from 5 per cent to 4 per cent, it still is apparent that the use of airfreight is desirable because the rate of return on investment is increased from 22½ to 24.

In using such a chart, it is necessary to evaluate how these different elements react upon each

(Please Turn to Page 46)

An eleventh hour ruling, made at request of the Senate Agriculture Committee, has postponed those sections of the new ICC regulations dealing with less-than-30-day leasing and leasing compensation — all other sections of the rules aimed at curbing abuses go into effect on schedule

By G. Lloyd Wilson

Professor of Transportation
University of Pennsylvania

Secondary and Subleasing

Q. May vehicles under lease to an authorized carrier be further leased to other carriers by the owner, or subleased to other such carriers by leasee?

A. Section 207.4(a) provides that carriers may perform transportation in or with equipment which they do not own only under a lease or other arrangement in writing which specifies the period for which it applies. The section further provides, as to other than household goods carriers, that the arrangement shall provide for exclusive possession, control and use of the equipment by the authorized carrier for the duration of the arrangement.

Controversial Leasing Rules

AS THIS issue was ready to go to press, word was received from the DISTRIBUTION AGE Washington News Bureau that the ICC had postponed until March 1, 1954, two sections of Ex Parte MC-43, the controversial truck leasing regulations scheduled to go into effect Sept. 1.

Those sections which prohibited truck leasing for less than 30 days and pertained to compensation were delayed six months at the request of the Senate Agriculture Committee and several senators.

The senators, in seeking postponement, maintained that the Senate should have a chance to act on the House-passed bill (H. R. 3203) which would prohibit the ICC from "regulating the duration of any lease" or contract for use of motor carriers. Although the bill had been sent to Senate, no action was taken before adjournment last month.

However, all other provisions of the ICC order go into effect as scheduled on Sept. 1. Earlier, for all authorized household goods carriers, the effective date of all regulations except those concerning vehicle inspection and identification, and the safety qualifications of drivers had been postponed until July 1, 1954.

Pro and Con

Leasing equipment is one of the most controversial issues in the motor freight transportation field. One group of motor common carriers takes the position that the status of common carrier imposes upon them the obligations of investment in facilities and equipment adequate to meet the requirement of the services they hold themselves out to perform for the public.

Another group of carriers has preferred to minimize its investment in equipment and to lease equipment of other motor vehicle operators including that of gypsy truckers who transport commodities exempt from regulation in one direction and place their vehicles at the disposition of the truck-leasing carriers.

The critics of unrestricted truck-leasing complained that these practices resulted in:

1. Unfair handicaps to the common-carriers who owned equipment;

2. Exploitation of owner-operators;

3. Evasion of regulation by the gypsy operators who used the combination of agricultural exemptions and truck-leasing to escape regulation;

4. Concentration upon truckload movements;

5. Selection of only such traffic as would yield attractive revenues and the refusal of other traffic on the excuse that equipment was not available;

6. The avoidance of all risks of seasonal or other variations in traffic by leasing only for the traffic available at the time in the direction, and the types attractive to the lessors.

The ICC Rules were formulated after attempts to develop agreement with respect to leasing practices by motor carriers had failed.

Important Exemptions

1. Equipment leased by one authorized carrier to another when:
   a. The lease is between regular route carriers operating between points and over routes they are both authorized to serve.
   b. The lease is between irregular route carriers operating between points and within territory both are authorized to serve.
2. Equipment used to transport railway express traffic or substitute motor-for-rail service between railroad statons.
3. Equipment used solely within municipalities or commercial zones.
4. Equipment not a power unit, provided that it is not drawn by a power unit leased from the lessor of such equipment.

Effective Sept. 1

In 1948, the Commission issued an order making all authorized motor carriers respondents, and suggesting rules.

Hearings were held and a report was issued by Division 5 of the Commission, June 26, 1950. Petitions filed with the Commission for reconsideration resulted in the reopening of the case for oral argument. The Commission's report and order of May 8, 1951, was made by the entire Commission.

Summary of Rules

In substance the rules of the Commission provide that:

1. The contracts for the use of non-owned motor vehicles' equipment by authorized carriers must be in writing:

2. The contracts must vest exclusive possession of and responsibility for the equipment in the authorized carrier during the period of the rental;

3. The period of the contract of lease must exceed 30 days in cases where the driver of the vehicle is its owner or the employe of the owner (postponed);

4. The lease contract must fix the compensation for the lessee, which may not be based upon a percentage of the gross revenue represented by the transportation charges upon the shipments of freight transported in the leased vehicles (postponed);

5. The equipment must be inspected when the lessor carrier takes possession of it;

6. The lessor carrier must identify the trucks operated under its responsibility;

7. The drivers' knowledge of Motor Carrier Safety Regulations must be tested by the lessor;

8. Interchange agreements between two authorized motor carriers must be in writing, and the leased equipment must be driven by an employe of the certified carrier over the authorized route of which the vehicle is operated; and

9. Records of the use of rented and interchanged equipment must be maintained by the carriers.

Section 5 above provides that: Before taking possession of equipment under a contract, lease, or other arrangement, it is the duty of the carrier to ensure that the equipment complies with parts 193 and 196 of the Motor Carrier Safety Regulations (Rev.), pertaining to "Parts and Accessories Necessary For Safe Operation," and "Inspection and Maintenance." If explosives or other dangerous materials are to be transported on the equipment it must also meet the requirements of part 197 of the safety regulations.

To meet this regulation the vehicle must be inspected by a person "who is competent and qualified to make such inspection" and who has been authorized by the carrier to make the inspection as the carrier's representative.

If the inspection shows that the equipment does not meet the specified requirements the carrier may not take possession of the equipment.

Driver Qualifications

The section on drivers demands that: Before a person other than an employe of the authorized carrier is assigned to drive equipment operated under these rules, the carrier has the responsibility of making certain that the driver is familiar with Parts 192, 193, 195 and 196 of the Motor Carrier Safety Regulations (Rev.) and that his employment as a driver will not result in a violation of any provision in such regulations.

(*Please Turn to Page* 48)

FREE COPIES

DA has prepared mimeographed copies of the complete regulations, revised to Aug. 10th. They are available to readers without cost by writing to the editor or circling No. 9 on Reader Service Card — Page 33.

New $8,250,000 Matson Line terminal covers 48-acre area, handles 6,000 ton of freight daily, expedites cargo with 13 motor-operated hinged cargo ramps used at all stages of tide

Los Angeles Dedicates 'World's Largest' Terminal

Called the world's largest and most modern, this terminal was assigned to the Matson Navigation Co. July 13th

A detailed view showing the first consignment of merchandise to enter transit shed, 1208 ft by 200 ft, with cargo capacity of 85,000 ton

A general view of terminal showing the S. S. Hawaiian Wholesaler, first cargo ship to dock

Heliport area at terminal will accommodate 16-passenger helicopters

THE NEW $8,250,000 terminal constructed at the Port of Los Angeles climaxes the port's $25,000,000 post-war waterfront development project. Designed specifically for Matson's luxury liner S. S. Lurline and the company's fleet of express freighters, the new terminal incorporates all of the latest developments for the handling of both passengers and cargo.

The terminal and its facilities cover a 48-acre area at the port and three ships may dock at once along the 1,650-ft wharf. The cargo facilities will load or unload 6,000 ton of freight in a single day. Five railroad spurs connecting with the four major railroads serving the port and special platforms for trucks expedite cargo.

Cargo handling on the wharf features the use of 13 motor-operated hinged cargo ramps which can be used at all stages of the tide. Included in the wharf area are a 38-ft wide creosoted timber apron wharf, which will accommodate two lines of railroad tracks, and a rear section constructed of reinforced concrete supported on more than 52,600 linear feet of asphalt impregnated concrete piling.

The transit shed itself is constructed of rigid steel framework with concrete exterior walls. A concrete division wall divides the terminal into passenger and cargo areas. If used by the military for national defense, 100,000 ton of cargo could be stacked inside the transit shed. In a national emergency 385,000 ton of cargo can be stored in the terminal area.

A regulation size marine heliport has been designed near the pavilion building in the parking area so that Matson may operate helicopter service direct to shipside from downtown Los Angeles, the International Airport, and other suburban centers. Sixteen-passenger helicopters are expected to be operated by Los Angeles Airways.

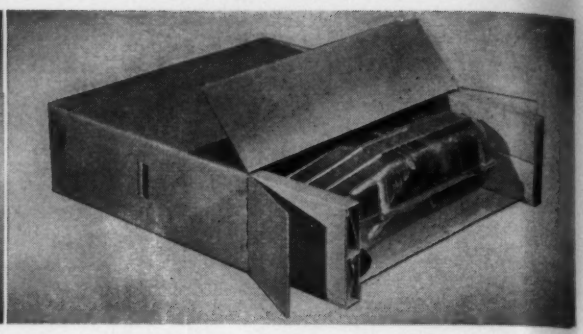
Five escalators and three huge passenger ramps strategically placed in the terminal will permit 50,000 persons an hour to ascend from the first floor level to passenger accommodations on the top floor. A 26-acre parking area will handle 4,000 automobiles.

Total Investment

Total investment of the citizens of Los Angeles in Port of Los Angeles now stands at $125 million. The Federal Government has expended about $40 million in dredging operations and construction of the breakwater. In the last five years the Harbor Commissioners have allocated $16 million for new cargo and passenger facilities; $4 million for fish handling installations and $5 million for street improvements, dredging bulkhead construction and purchase of property. Total city and Federal investment in the Harbor now stands at nearly $150 million.

An additional transit shed 500 by 200 ft, clear span, is planned for construction in 1954, making the new Matson Terminal the world's largest and most modern.•

Shipping gas tanks without packaging was a Studebaker practice for years, then wrapping was tried and carton as shown



The tank was redesigned, secured in a carton with roll-up pads, spout made detachable and placed in corner of box

Profitable Packaging of Odd

Package engineering is an integral part of Studebaker's handling of 30,000 different replacement or accessory items—the product is made to fit the package to the pallet and method of transportation

By Carroll W. Evans
Supt., Parts & Accessories Div., Studebaker Corp., South Bend, Ind.

PACKAGING is a significant factor in modern merchandising. In addition, scientific packaging exerts an important influence on handling and distribution costs. There is no question that a large percentage of total product and final distribution costs is spent in the essential functions of selling, storing, handling, and transporting, all of which can be favorably affected by proper packaging.

Packaging Operation

The Studebaker operation carries in stock at all times some 30,000 different replacement or accessory items, each of which has had some type of package engineering work done on it

Some items can be shipped in an unpackaged condition, and others may be grouped and packed in a standard packing case at time of shipment without any advance preparation. However, many items do need special packaging, and that is one of the more important tasks to be performed.

Basic Functions

Our Package Engineering group is made up of a packaging manager with a large staff under him, including packaging engineers and operational supervisors. Let me emphasize here that materials handling men are also concerned with the size, weight, and degree of fragility of a package.

In our unified packaging-materials handling program, we attempt to make the product fit the package that fits the pallet that fits the method of transport. We have had examples where the product itself has been re-designed to fit this idea.

The package is designed for handling methods used by an entire chain of distribution—by the manufacturers, the carriers, the branch warehouses, and the final retailer.

Problems of Design

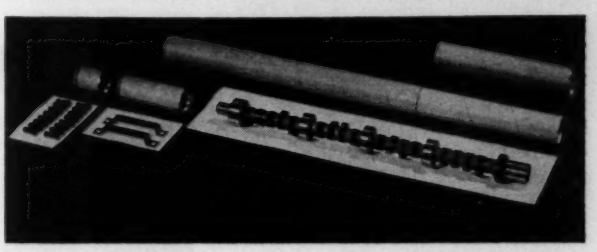
In designing our packages we follow several general rules in order to make them as easy to handle as possible. We watch the weight and try to hold it within the limits of 30 to 50 lb, although we have many unit-packaged items that are much heavier. Even if an item is palletized, in the majority of cases it has to be stacked on and off the pallet by hand.

Packages either too large or too small are generally undesirable, since they are hard to palletize effectively. The very small

The regular shape of cartoned fenders make a neat appearance in storage area, greatly decrease carloading problem

Chassis wheels are standardized to 25 wheels per pallet, and adequately secured with steel strapping for shipping

Shaped Parts



Three piece telescope can laminated with VCI paper furnishes corrosion prevention for precision ground camshaft

packages that we do have are handled in wire-bound pallet boxes.

It is generally accepted that, for maximum stability in stacking, the height of a package should be less than the width or the length. We try to stay away from the perfect cube as it is very difficult to palletize.

In considering strength, the determining factor is usually the height and weight of the entire stack. In our case a stacking height of 16 ft is deemed the maximum practical.

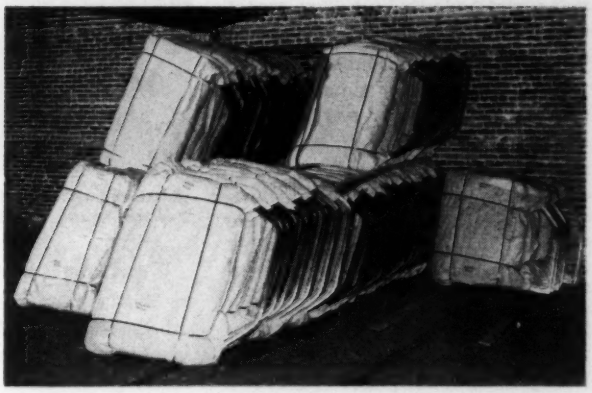
Advance Packaging

All parts and accessories distributed from our factory warehouse in sufficient volume to justify packaging may be advance-packaged as an individual part or kit combination in order to provide protection to precision and high-finish parts and items subject to damage in handling.

We also package related items as a unit or kit combination to provide a logical merchandising package, such as standard parts and high-volume items packaged in practical wholesale merchandising quantities.

Some packages may be confined to quantities required to service one vehicle. Last and most important, advance packaging is done to provide minimum warehouse stock quantities of high-volume items to reduce the time required to effectuate delivery.

(Please Turn Page)



With doors partially wrapped with excelsior pad and banded, damage losses have been less than cost of other packaging

Hoods protected with excelsior pad secured with barbed steel clip proved satisfactory, eliminated use of rope

Editor's Note: Mr. Evans' remarks are taken from a paper presented at the AMA Packaging Conference in Chicago, April 20-23, 1953. The article was prepared in conformity with AMA's 50 per cent limitation rule.

. . Odd Shaped Parts

(Continued from Preceding Page)

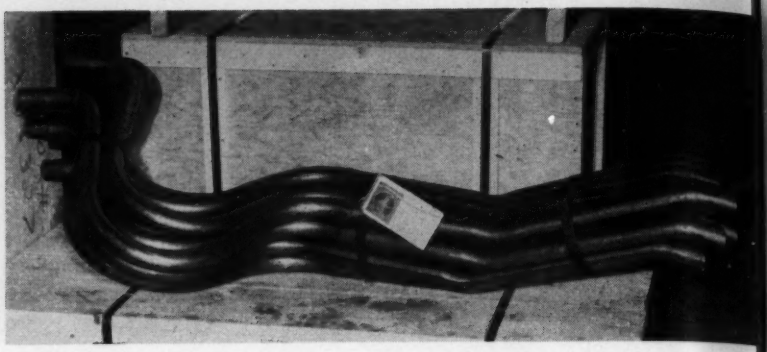
Standard Packs

To reduce unnecessary handling expense, many parts and accessories are shipped direct to our warehouses from individual manufacturing plants where warehouse sales volume allows an acceptable shipping quantity. Our Central Packaging Division engineers controls packaging at production sources.

It is also, at times, advantageous to have material requiring packaging processed by a contract packaging source. Here again we engineer and control the packaging.

Our standard packs are established in quantities designed to reduce to a minimum the time required to process. The quantity to be contained in a standard pack is determined by the Material Control or Sales Promotion Department, as applicable, as the minimum practical replenishment quantity that any warehouse should order in a unit of one pack without any serious risk of obsolescence or high inventory.

Exceptions are made when the pack exceeds the limitations of the Uniform or National Motor Freight Classification, or when a manufacturer's standard package is under our recommended standard package. All manufacturers' standard packages are accepted where found practicable by us.



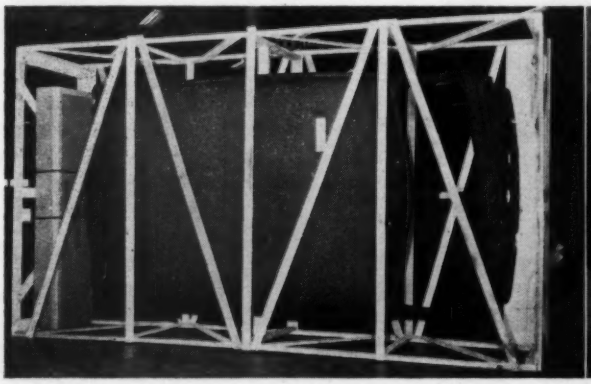
Automotive parts which do not have critical surfaces exposed, like these exhaust pipes, are strapped in unit loads for easier handling and loading

Advanced packaged springs strapped to pallets in predetermined quantities reduce time required to effectuate delivery of this highvolume product

Those connected with the job of designing packages, I believe, should have an unusual amount of common sense, some imagination, actual packaging experience, an understanding of materials handling procedures and equipment, and good contacts with suppliers of packaging material. With this background, one should be able to devise a way to protect a product.

(*Please Turn to Page* 50)

Roof top in light weight crate has also separate packaged kit for installing to body inside crate



This is crating used when exporting chassis wheels. Note two steel straps secure them for safe transit

For prompt service, use the postage-free postcard provided here for your convenience in securing FREE LITERATURE and NEW PRODUCTS information described in this issue of DISTRIBUTION AGE. All material FREE, unless otherwise noted, as in the case of text books and some pamphlets.

Profit Making Ideas

Handling costs can be reduced as much as 75 per cent, claims Hyster Co. when the numerous Hyster materials handling machines are used to handle efficiently almost any type of load. Two new catalogs describe the Hyster Lift Truck and over 100 attachments available.

Circle 16 on Service Card, Page 33

Safety Guard Bed

Metzger Co. describes in new bulletin its safety guard bed which protects personnel, conveys small packages and flat parts and is available in 11½, 15, 18 and 24 in. widths. The live roller bed is easily removable for cleaning or to convert to bed conveyor.

Circle 17 on Service Card, Page 33

Vertical or Horizontal

Mercury's complete line of equipment for both vertical and horizontal handling is described in a new 44-page catalog. Specifications and illustrations showing Mercury fork trucks, tractors, trailers and platform lift trucks in various industrial applications are also included.

Circle 18 on Service Card, Page 33

SIPMHE Exposition

Complete information on the 8th Annual National Industrial Packaging & Materials Handling Exposition, October 20-22, in Boston, Mass., has just been published. Details on hotel accommodations, exhibitors, exposition regulations, and "Short Course" sponsored by Mechanical Engineering Dept. of M.I.T. are fully described.

Circle 19 on Service Card, Page 33

Truck Specifications

Complete specifications for the Baker-Lull 4b Front End Loader mounted on various models of R. H. Sheppard Industrial-type tractors are shown in latest catalog from Baker-Lull Corp.

Circle 20 on Service Card, Page 33

Aluminum Foil Packaging

A new, revised and enlarged edition of the packaging manual, "Reynolds Aluminum Foil Packaging" has been published. A basic treatise on foil packaging, this publication describes the great variety of foil materials presently used. It also provides in handy reference form technical data on package design and application.

Circle 21 on Service Card, Page 33

Government Publications

Small Business

"Packaging Pointers for Government Contractors," published by the Small Defense Plants Administration, discusses packaging problems typical of those encountered by firms engaged in defense production. The leaflet explains the common packaging requirements under Government contracts, and outlines the points relating to packaging that should be considered before a bid is submitted.

Circle 22 on Service Card, Page 33

Reduce Maintenance Costs

How the small businessman can reduce maintenance costs through systematic lubrication of his plant machinery is explained in a new leaflet, "Economies in Lubrication," published by the Small Business Administration. Analysis of the savings achieved in individual plants through proper lubrication is presented in the leaflet.

Circle 23 on Service Card, Page 33

BOOKS

Conveyor Dictionary

A new and revised edition of "Conveyor Terms and Definitions," just off the press, lists 1500 terms, shows line drawings of more than 80 types of conveyors and parts, and gives exact industrial specification for the numerous words to describe conveyors. Conveyor Equipment Manufacturers Association, No. 1 Thomas Circle, Washington, D. C., $1 a copy.

Bag Bulletin

C. R. Daniels, Inc., manufacturers of canvas and leather bags, has recently released their latest bulletin, illustrating long wear and low cost bags for mail, coal, coke, block and flake ice, chairs, money and other special purposes.

Circle 24 on Service Card, Page 33

Railroad Facts

The 1953 edition of "Railroad Facts," a 96-page, pocket-size yearbook of pertinent information and statistics pertaining to railroad operations in 1952, both nationally and separately for the western territory, is now available.

Circle 25 on Service Card, Page 33

New LCL Schedule

Designed as a handy reference guide for shippers who want fast lcl service, this schedule contains a complete listing of New York Central's merchandise carlines to and from system and off-line points. Also shown are schedules for coordinated truck service which will make certain that shipments reach transfer points in time to meet merchandise cars.

Circle 26 on Service Card, Page 33

Pocket Handling Catalog

A comprehensive line of equipment for the "floor level" handling of goods and materials manufactured by the Barrett-Cravens Co. is described in a new 100-page pocket size catalog. Three low-priced standard portable elevators, hydraulic lift trucks for one-man handling of heavy loads, and "Radox" radio remote controlled electric trucks and tractors are a few of the latest handling units described.

Circle 27 on Service Card, Page 33

Portable Equipment Shelter

Yard-Stor Shelters, a new concept of storage housing, is a series of independent identical sections mounted on a track to form a building and provide temporary or portable yard storage facilities for military, air, naval, marine, railroad, construction, utility, industrial, commercial and agricultural purposes.

Circle 28 on Service Card, Page 33

Gravity Wheel Conveyors

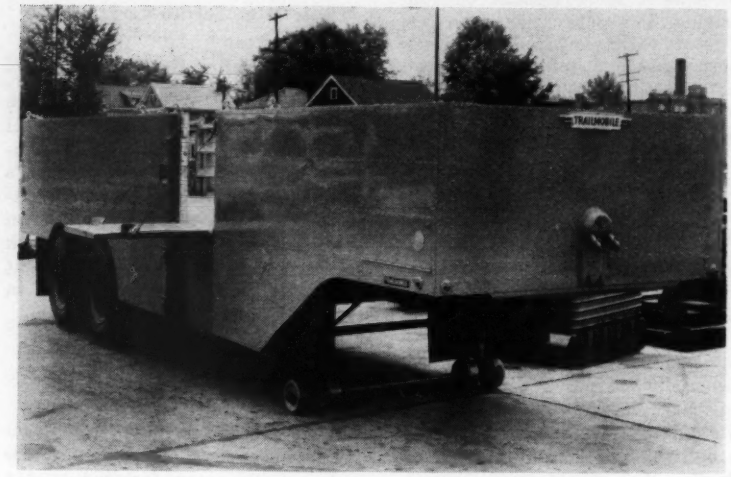
The new 1953 two-color catalog of Speedways Conveyors, Inc. was recently released with photographs and data on their latest handling equipment.

Circle 29 on Service Card, Page 33

DA New PRODUCTS

FOR FURTHER INFORMATION USE READERS' SERVICE

Self-Contained Elevator New Trailer Feature

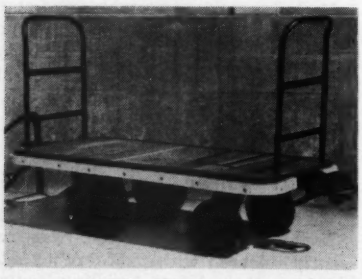


Powered by compressed gas stored in a cylinder installed in the nose of the trailer, curb-side gates on this trailer can be raised from ground level to trailer-floor level, with a load up to 900 lb. Perfected by engineers of Trailmobile Inc., the trailer is designed to transport 30,000 lb payload of 200 steel cylinders of compressed gas. On the left, or dock-side of the trailer, are conventional side-outlets for unloading the cylinders

Circle 51 on Service Card, Page 33

Rubber Bumper

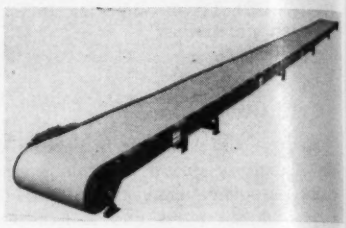
This new 2,000 lb capacity, pneumatic tired trailer for institutional use, manufactured by Mercury Manufacturing Co., has a non-marking, white rubber bumper surrounding the frame. Roller bearing wheels permit the trailer to roll so easily that it can be man-handled. Standard racks are illustrated, however, racks of varying design and dimensions can be supplied.



Circle 52 on Service Card, Page 33

Side Drive Belt Conveyor

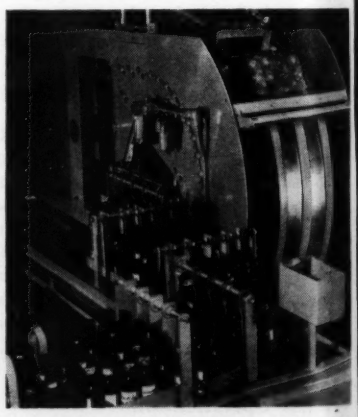
A new Metzgar belt conveyor features side mounted drive motor to permit close-to-the-floor installation and for use for loading and receiving where transports cannot reach storage and receiving area. Built to specification for inclined installation, this model is 15-in. high by 65-ft long with 18-in. resin impregnated belt driven by 5-hp motor and 12-in. drive pulley at 60 fpm. Rollers and slide beds under belt provide a capacity of 60 lb per ft.



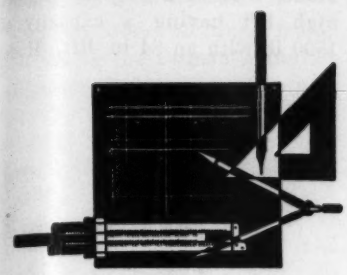
Circle 53 on Service Card, Page 33

Automatic Washer

An automatic machine that will uncase and feed to a washer up to 960 beer bottles per minute and clean the emptied cases at the same time has been developed by RCA Victor. It assures a continuous flow of bottles to the washing equipment, effecting a substantial savings in operating costs, and can be adapted to feed two bottle washers simultaneously.



Circle 54 on Service Card, Page 33



CARD....PAGE 33

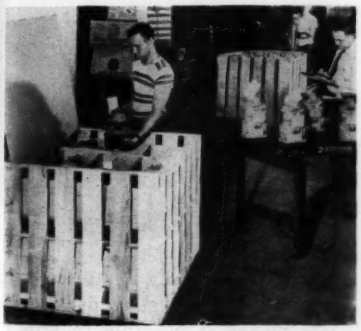
Radio Remote Control

A radio remote control unit, manufactured by Barrett-Cravens Co., attaches to the belt of the order picker, who moves the tractor forward, reverse, or around corners without going to the tractor. The operator can either ride on a trailer or operate the tractor in the conventional manner, without using radio control. Also available for other models.

Circle 55 on Service Card, Page 33

Palletized Container

A palletized wirebound container designed by American Box Co. eliminates two complete phases of handling between production and shipping in manufacturing processes. The unit serves as a palletized production tote box, storage bin and shipping container all in one.



Circle 56 on Service Card, Page 33

Increased Volume

A vertical belt conveyor with an automatic in-feed and discharge manufactured by Conveyor Specialties Co., is claimed to increase handling volume up to 100 per cent. Cases from a horizontal belt conveyor are automatically fed into the vertical in-line system where they are tightly gripped between friction-surface conveyor belts, augmented with spring-loaded rollers. These rollers permit automatic adjustment of the conveyor for variance in case size up to 2 in. At the top of the vertical in-line conveyor, an offset roller discharges the case onto another conveyor.

Circle 57 on Service Card, Page 33

Open Center Design

The new U. S. Royal Road Grader-Full Traction tire, manufactured by United States Rubber Co., has no center running rib in order to give maximum traction on harder type surfaces. The open center design allows the tire to bend and conform to almost any ground irregularity.

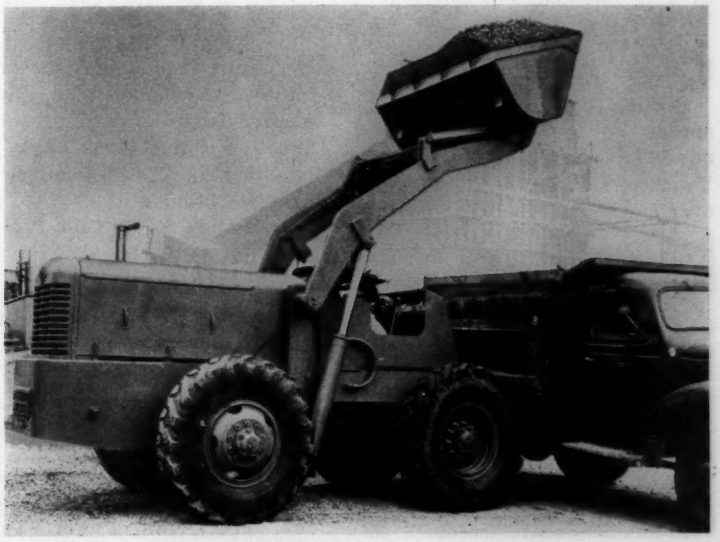
Circle 58 on Service Card, Page 33

(*Please Turn Page*)

Automatic Power Selection for Varied Loads

Speedall equipped with Torque Convertor now provides inch by inch control of foot accelerator without shifting speeds or slipping clutch. This Model 15, 1½ cu yd front-end loader, manufactured by Pettibone Mulliken Corp., has a 15 ft 9 in. height over closed bucket, full raised, and a reach of 3 ft 7 in. at maximum dumping clearance. Automatic power selection adjusts the engine power to the load being handled. Gasoline or Diesel engines are available on this new model.

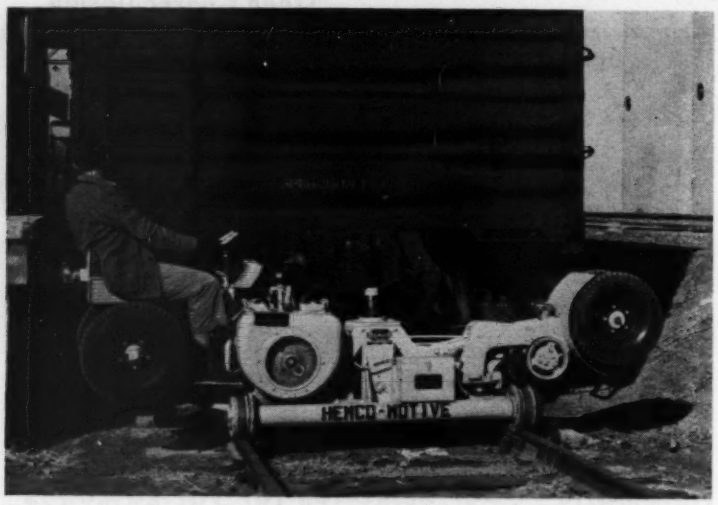
Circle 59 on Service Card, Page 33



DA New PRODUCTS

Continued from previous page

Develops Draw Bar Pull of 7400 Lb



A roadable switch engine, the HemcO-Motive, manufactured by HemcO Manufacturing, Inc., has a hydraulic weight transfer cylinder which transfers the car's weight onto HemcO-Motive, thus giving HemcO-Motive the necessary traction on its drive wheels to pull the load. It develops a draw bar pull of 7400 lb, which is sufficient to propel three fully loaded cars or six to eight empties. It moves the cars at a speed of 150 fpm and moves at a speed of 8 to 10 mph on the rubber tires. A Wisconsin air-cooled engine powers the switch engine.

Circle 60 on Service Card, Page 33

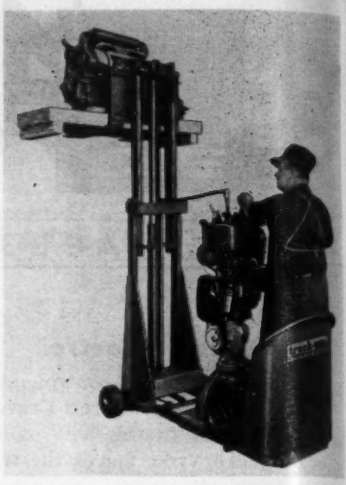
2 Acres Per Hour

Picking up dirt and litter at speeds up to 6 mph, this new power sweeper developed by G. H. Tennant Co., is said to sweep over 2 acres an hour. A "floating-type" dirt hopper permits sweeping over uneven surfaces. Instant change from forward to reverse and 5-ft radius turns allow easy handling in crowded areas and narrow "blind alleys."

Circle 61 on Service Card, Page 33

High Lift Models

Two new lift trucks, designed to solve the problem of low load limits on elevator floors in the light weight, low cost and high lift field, have been announced by the Truck-Man Division of The Knickerbocker Co. Both are designed around the 360 deg rotating Truck-Man Power Turret. Model D-15 is a counterweighted high lift having a capacity of 1500 lb with an 84 in. lift. Model

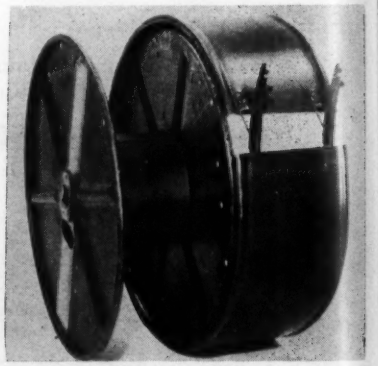


DS-20 is similar to D-15, but balance is maintained by stabilizing outriggers which project forward on each side of the load. Its capacity is 2,000 lb. Powered by an air cooled engine, the trucks are claimed to operate a full 8 hour shift on a single gallon of gasoline.

Circle 62 on Service Card, Page 33

Reel Guards

Cargo Packers Inc., announce production of a new guard for wire reel dispensers. The reel protectors completely safeguard wire dispenser reels from damage while in use and in transit when being shipped or moved in the field. Wire and cable is protected from damaging abrasive action and the



guards are easily installed without tools. The "sure fit" built-in rim makes it possible to slip the guards in place instantly.

Circle 63 on Service Card, Page 33

Mobile Truck Crane

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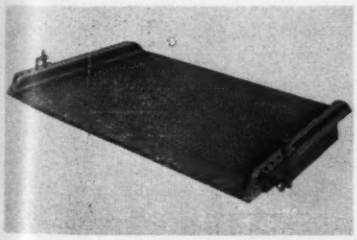

to 10,000 lb, to meet the needs of industry without the added cost of making special size ramps.

Circle 65 on Service Card, Page 33

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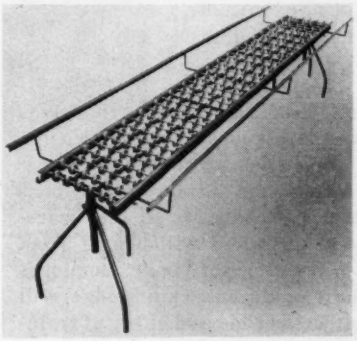

wheel which revolve on hardened steel raceways and cones, are grease-packed for life, and plated.

Circle 67 on Service Card, Page 33

Overload Protector

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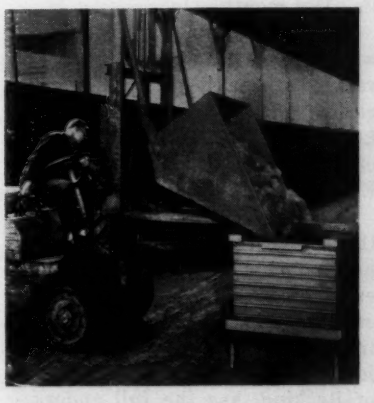


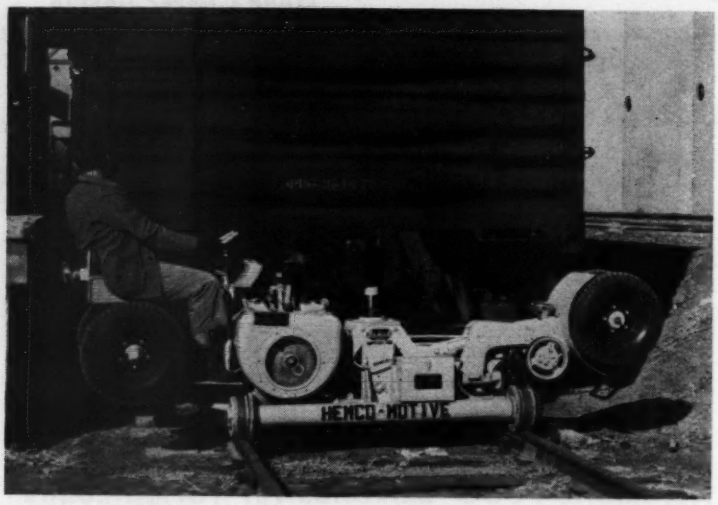
loader" by attaching the scoop to the truck's auxiliary lifting mast. Dumping can be done at any desired height.

Circle 69 on Service Card, Page 33

DA New PRODUCTS

Continued from previous page

Develops Draw Bar Pull of 7400 Lb



A roadable switch engine, the HemcO-Motive, manufactured by HemcO Manufacturing, Inc., has a hydraulic weight transfer cylinder which transfers the car's weight onto HemcO-Motive, thus giving HemcO-Motive the necessary traction on its drive wheels to pull the load. It develops a draw bar pull of 7400 lb, which is sufficient to propel three fully loaded cars or six to eight empties. It moves the cars at a speed of 150 fpm and moves at a speed of 8 to 10 mph on the rubber tires. A Wisconsin air-cooled engine powers the switch engine.

Circle 60 on Service Card, Page 33

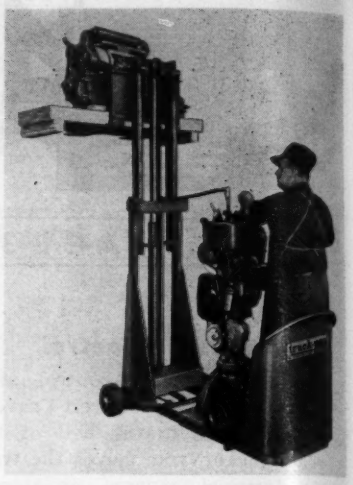
2 Acres Per Hour

Picking up dirt and litter at speeds up to 6 mph, this new power sweeper developed by G. H. Tennant Co., is said to sweep over 2 acres an hour. A "floating-type" dirt hopper permits sweeping over uneven surfaces. Instant change from forward to reverse and 5-ft radius turns allow easy handling in crowded areas and narrow "blind alleys."

Circle 61 on Service Card, Page 33

High Lift Models

Two new lift trucks, designed to solve the problem of low load limits on elevator floors in the light weight, low cost and high lift field, have been announced by the Truck-Man Division of The Knickerbocker Co. Both are designed around the 360 deg rotating Truck-Man Power Turret. Model D-15 is a counterweighted high lift having a capacity of 1500 lb with an 84 in. lift. Model

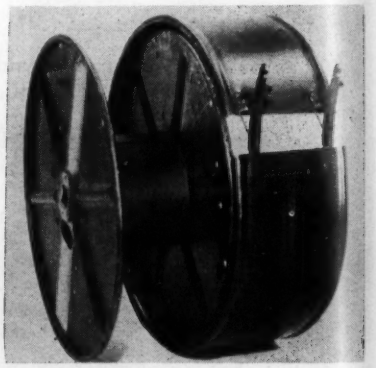


DS-20 is similar to D-15, but balance is maintained by stabilizing outriggers which project forward on each side of the load. Its capacity is 2,000 lb. Powered by an air cooled engine, the trucks are claimed to operate a full 8 hour shift on a single gallon of gasoline.

Circle 62 on Service Card, Page 33

Reel Guards

Cargo Packers Inc., announce production of a new guard for wire reel dispensers. The reel protectors completely safeguard wire dispenser reels from damage while in use and in transit when being shipped or moved in the field. Wire and cable is protected from damaging abrasive action and the



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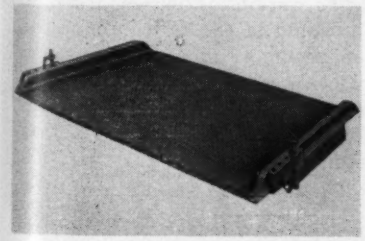

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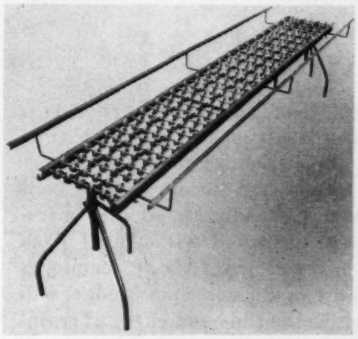

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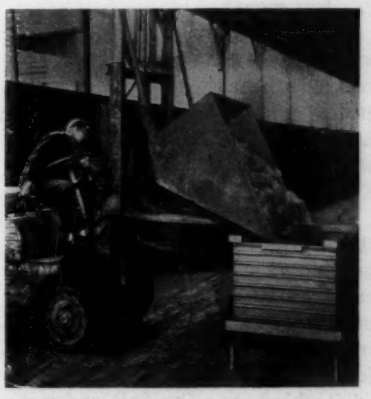


Circle 69 on Service Card, Page 33

Warehouse employes maneuver around obstacle course at first Fork Truck Driving School opened in Philadelphia, Pa., supervised by Yale & Towne

Fork Truck School Opens in Philadelphia

Increase of qualified lift operators, reduction of accidents and damage to equipment and merchandise benefits of training

A DRIVING school to train warehouse employes in the efficient operation of fork lift trucks opened in Philadelphia, Pa., last month.

The 16 hour training course in warehouse mechanization was developed through the cooperative efforts of the Warehouse Union, Local 169, and the Philadelphia offices of the Pennsylvania State Employment Service.

It is believed by these agencies that the warehouse industry is experiencing a lack of capable and experienced fork truck operators, especially in those firms introducing full scale mechanization. The joint training program, the first of its kind, has the full endorsement of warehouse operators.

Three classes of six trainees are scheduled every two days. The men attending will all be employes of area warehouses. At the completion of the course, they will have latest operating knowledge of fork truck procedures.

Union and State Employment Service officials stated that warehouse operators will benefit from the training of their employes whose additional knowledge will reduce the time and effort of training programs of the individual warehouses.

The warehouse operators will benefit also in the reduction of accidents and damage to equipment and merchandise. Misuse of fork lift truck equipment and other warehouse machinery results yearly in losses totaling thousands of dollars.

The training program, recognized as one of the best in the field, is prescribed by the Yale Materials Handling Division of the Yale and Towne Manufacturing Co.

Edward J. Hartsough
Business Manager
Warehouse Employes Union, Local 169

Union Endorsement

"The serious shortage of qualified fork lift truck operators needed by the many warehouse firms in this area has resulted in the establishing of this joint training program. This program, which is the first of its type anywhere, has the full endorsement of the union and warehouse operators.

"Its benefits will mark it as one which will save many thousands of dollars yearly in the costs of warehouse operation."

An advisory committee comprised of members of Local 169, warehouse operators and representatives of the State Employment Service estimate by September at the completion of the program, more than 360 men will have received training this year.

All instruction and practice will be under simulated warehouse conditions. The PSES plans to develop aptitude tests to help in the selection of men for this type of training who at the time would not be working in warehouses but who could learn the techniques in a minimum of time. After proper selection, screening and training, the men would be sent by PSES offices to the warehouses in this area.

The school is the outgrowth of a serious shortage of qualified lift operators by the many firms desiring modernization and mechanization. Its success will also enliven the competitive spirit of the area warehouse operators.•

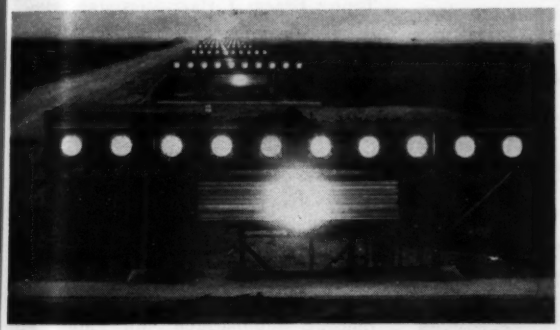
Instrument Runway Fosters Air Safety

High intensity runway lights every 100 ft and unique tracer-type approach lights simplify landing system

New Newark terminal building—old building will be converted for cargo

VISITORS at dedication ceremonies in July for Newark Airport's new $8½ million terminal building also were given an opportunity to inspect the airport's amazing new instrument runway (4-22).

Built by the Port of New York Authority and put in operation last November, the 7,000- by 200-ft runway, featuring the most modern safety devices, is the first of any commercial airport to have high intensity runway lights every 100 ft instead of the normal 200 ft.



The 14-ft wide top bars burn continuously, while the bottom bar is a flashing lead-in aircraft guide arrangement

Newark Airport's $9 million instrument runway has high intensity runway lights, ILS, PAR and new CAA markings

It also is the first to incorporate the new CAA standard runway markings for visual guidance. The runway also is equipped with an elaborate instrument landing system and precision approach radar.

The approach lighting system is possibly the most efficient yet devised for safely guiding incoming aircraft. It consists of 30 horizontal bars of light, each 14 ft wide, extending 3,000 ft from the southerly end of the runway. Below each bar is a light which flashes in sequence toward the runway like a tracer bullet so that the pilot sees a moving light down the center of the strip.

Five bars of light marking 1,000 ft from the end of the runway give the pilot distance from the runway and serve as a guide in positioning the plane for landing. A 100-ft wide taxiway with 20-ft shoulders and seven connecting taxiways parallels the runway.

The new CAA markings include solid 3-ft stripes along the full length of each side of the runway, a dashed 3-ft center stripe, threshold markers at each end, distance markers, 500, 1,000, 1,500 and 2,000 ft from each end, and numbers to designate the runway heading.

The terminal building, object of the impressive ceremony, includes a main building 576 by 166 ft, and two enclosed arcades, each 575 ft long and from 10 to 16 ft wide. The main building and arcades contain a total of 188,411 sq ft, or five times the area of the former administration building.

The old structure, immediately adjacent to the new building, will handle airmail and express.

Other features of the new building include the world's largest airport glass enclosed observation deck, a 650-car parking lot, 16 gate positions, a 238-capacity dining room, and the usual terminal consumer services, from bootblack stands to a bank. •

Industry Items

Application of radio-remote controlled movement of electric trucks is illustrated at the five-acre food warehouse of Winston & Newell Co., Hopkins, Minn. Upper view shows an order picker loading a trailer train, drawn by a Barrett Radio Controlled Tractor Ox. He moves the train by means of a control unit fastened to his belt. In the lower view the load is nearly completed, with the operator riding the rear trailer

Lehigh Warehouse & Transportation Co. has opened a warehousing and distribution center in Atlanta, Ga.

Kornylak Engineering Corp., Jersey City, N. J., are now sales agents for the **A. B. Farquhar Co.**, York, Pa.

Burnet Transfer & Warehouse Co., Miami's oldest commercial storage company, has merged with **Mercer-Fussell Storage Co.** The new organization will be known as **Mercer-Burnet Warehouse Co.**

Brainard Steel Corp., Warren, Ohio has awarded contracts for construction of a new steel strapping plant 75,000 sq ft in area.

The Port of New York Authority will build a giant new hangar and operations building at **New York International Airport** for **United Air Lines.**

Fruehauf Trailer Co. reports a new sales record during the first six months of 1953 totaling $105,399,642 and net earnings amounting to $3,715,450.

Pacific Intermountain Express has established an off-line sales office in Indianapolis, Ind.

The White Motor Co. of Canada, Ltd. has started construction on a new branch building at Regina, Sask. The new building will cost an estimated $250,000 and will contain 30,000 sq ft of floor space.

Trans World Airlines has signed a new three-year contract to continue operation of Ethiopian Air Lines.

Link-Belt Limited opened a new plant at Scarboro, Ont., 72,000 sq ft in area, which will handle the design and manufacture of conveying and processing equipment.

American President Lines opened business offices at the Port of San Diego, Calif.

Kidder, Peabody & Co. offers 120,000 shares of $1 par value common stock of **Mechanical Handling Systems, Inc.** priced at $7 per share. Proceeds will purchase outstanding common stock of **The Louden Machinery Co.**

Trans World Airlines is providing a second weekly flight to Colombo, Ceylon.

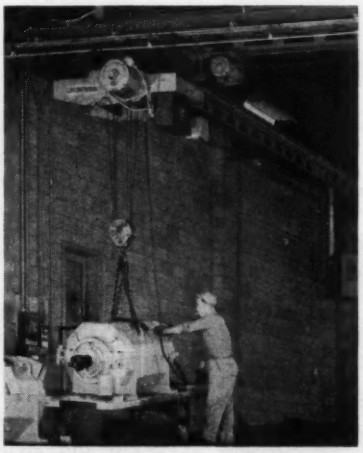
Union Pacific Railroad announces plans for the construction of new yards in East Spokane, Wash.

The **Materials Handling Engineers** of Salt Lake City, Utah have been appointed representatives for the sale and service of **Yale** industrial trucks in Utah and portions of Wyoming and Nevada.

Ringsby Refrigerated Division, a subsidiary of **Ringsby Truck Lines, Inc.**, simultaneously opened offices in San Francisco, Los Angeles, Denver, Omaha and Chicago.

LeTourneau-Westinghouse Co. has reorganized its domestic sales territories into eastern and western divisions instead of eastern, central and western as heretofore.

Versatile Hydraulic Crane Co., Los Angeles, Cal., has been appointed sales agents for the Hiab Crane Co., Hudiksvall, Sweden, in the 11 Western states, Mexico, Alaska and the Hawaiian Islands.



A shipment of motors at the Lake Shore Motor Freight Co., Girard, Ohio, is being transferred from a trailer by means of a push-button operated Cleveland Tramrail crane. One man can move each motor in a matter of minutes, where previously it took two men one-half hour to move each motor from a truck

Men in the News

(Continued from Page 13)

—Highway

W. F. Sternberg, appointed manager, Loader Manufacturing, Chicago, Ill. He formerly was production mgr.,

Charles C. Freeman—appointed off-line sales representatives for P-I-E, Indianapolis, Ind.

Gerald E. Ledbetter—new assistant sales manager, Champion Spark Plug Co., Toledo, Ohio.

Henry G. Milans—appointed GMC truck retail sales manager in charge of the factory branch at 1700 W. Pershing Road, Chicago, Ill.

Gail H. Crawford—general manager and executive vice-president of Ringsby Truck Lines, Inc., elected Colorado regional vice-president of the Middlewest Shipper-Motor Carrier Conference.

—Rail

Fred Heimlicher, Jr.—promoted to freight traffic manager of the Illinois Central Railroad, St. Louis, Mo.; **W. Richard Jones**—assistant freight traffic manager and **James E. Gardner**—general freight agent, Memphis, Tenn.; **Ernest J. Carr**—assistant vice-president; **R. A. Trovillion**—vice-president in charge of traffic; **Howard S. Powell**—general freight traffic manager; **Carl A. Larsen**—assistant general traffic manager, Chicago, Ill.

F. G. Hoskins—retired as general manager of the Eastern Region, Baltimore & Ohio Railroad. **John Edwards, Jr.**—succeeds him at the Baltimore office; **Wilbur R. Galloway**—general manager, Central Region, Pittsburgh, Pa.; **C. T. Williams**—general superintendent transportation, Baltimore, Md.; **A. W. Conley**—superintendent, Cumberland, Md.; **John F. Robbert**—superintendent, Toledo division, Dayton, Ohio; **C. S. Darling**—superintendent, Ohio division, Cincinnati, Ohio.

—Water

Louis Bryant—appointed permanent manager of San Diego office, American President Lines.

R. H. Jordan—new superintendent of the public grain elevator at the Port of Houston.

D. Leon Williams—named director of the Georgia Ports Authority, owners and operators of the Savannah State Docks and Warehouses.

Warehousing

Nate Rose—owner of the City Transfer Co., San Bernardino, Calif., elected president of the California Moving & Storage Assn.

(Resume Reading on Page 15)

MULTI-STOP LEADER FOR 15 STRAIGHT YEARS

The performance of International Trucks with Metro® bodies is unmatched. They're designed for multi-stop service. Owners' cost records have made them multi-stop sales leader for 15 years.

You get more payload space on shorter, more maneuverable chassis. *You save time* in traffic and on delivery routes. *You save space* at loading dock and in the garage. You have a choice of *4 body lengths.*

You profit from features that *save driver time and energy.* Full 6-foot headroom and low stepwell speed loading and unloading. Broadleaf springs and new shock absorbers provide maximum driver comfort.

Compare all-truck construction that gives you unmatched chassis stamina, engine power, and operating economy. *Compare* the long life and low maintenance cost of the all-steel Metro body. It's the multi-stop body that outlasts them all.

See your International Dealer or Branch today

NEW INTERNATIONALS WITH NEW METRO BODIES

Compare them with any other multi-stop truck on the market!

More Payload Space. Eight body sizes, two body styles —standard or flatback. Four body lengths—7¾, 9½, 10½, and 12-foot; *each* has increased capacity. New capacities range from 243 to 392 cubic feet.

New Driver Convenience. New full 6-foot headroom. Low stepwells. Sliding front doors standard, folding doors optional. Six rear door options.

New Driver Comfort. New broadleaf springs. New shock absorbers. Lower center of gravity. New toeboard angle.

New Savings. New downdraft carburetion for greater fuel economy. New cushioned disc clutch for longer life, smoother operation.

Six chassis models, 102, 115, 122, and 134-inch wheelbases. GVW ratings, 5,400 to 10,000 lbs.

INTERNATIONAL HARVESTER COMPANY · CHICAGO

International Harvester Builds McCormick Farm Equipment and Farmall Tractors... Motor Trucks... Industrial Power... Refrigerators and Freezers

Better roads mean a better America

INTERNATIONAL TRUCKS

Standard of the Highway

Circle No. 109 on Card, Page 33, for more information

. . . Better Distribution

(Continued from Page 23)

buted to consumption or storage points. It is apparent here that continuous control of materials handling and accountability, from suppliers to consumption points, requires unified control of the traffic, receiving, storage and handling services. It should be emphasized that a receiving section operates predominantly on new materials and on the records controlling their arrival.

Warehouse Function

Storage and space control form the two basic warehouse functions essential to every productive enterprise, and warehousing as a complete function exists in miniature within every such enterprise. Stock movement, maintenance, and upkeep, recommendations for salvage, plus the receipt, issue, expediting and storing of materials are the storage section functions.

The space control section maintains greatest utilization of space in conjunction with the materials handling and packaging sections, coordinating, planning, and allocating space wherever required for storage or movement of materials for all departments.

The storage section's responsibility for storage is also properly extended to regional stocks, whether in commercial warehouses or on company premises, by reason of its demand for uniformity of method, and economy in procurement of space and supplies. The work of these sections should not be confused by association with the work of a production planning department.

Storage and space control relate to the custody, delivery, expediting and physical location of stock, logically related to materials handling, receiving, packaging, shipping and traffic.

The important fact here is that production planning regulates performance in terms of material quotas, while storage and space control regulate location and movement of material in use.

Packaging Function

Packing and packaging may be defined as the process by which the product and the raw materials are protected in handling, transportation and storage. It includes protection against shock, rust, and corrosion, improvement of handling and storage qualities, reduction of weight and bulk, compliance with carrier specifications and identification of the contents.

An adequate packaging program will also provide for discovery of every reasonable opportunity to stimulate product sales by enhancing the appearance of the package. This is done by liaison with the sales, advertising and merchandising departments in the organization.

After consideration of these packaging needs, the analysis of requirements, bills of material, and package specifications are prepared. The package is then complete because it is based on carrier's rules, on demands of materials handling systems, on demands of the product itself for protection, on sales and advertising appeal, and on reasonable cost.

The relation of packaging to other distribution functions is clear. Rules, limitations and features essential to the package are applied by each operations section as suits its need and as compromised with other needs. Responsibility for protection of the product, for actual packing of containers, and for the size, weight, shape and cost is essential to an operating materials handling, storage and transportation group.

Materials Handling

The materials handling functions are broad in scope. They are regularly applied to the packaging, transportation and storage functions, and reach firmly into the day to day performance of every other operations function.

An important benefit of a consolidated operations department is its ability to achieve substantial economies by determination of methods for handling and speeding raw materials from source of supply to consumption and storage points, for intra-plant movement, and for handling the finished product from manufacturing and storage points to the consumer.

Materials handling methods may thus be enlarged in scope to where they include supplier and consumer participation for the considerable advantage of both. An operating materials handling section is responsible for the selection, use and pooling of equipment, the planning and supervision of handling methods, the training of handling personnel, and, ultimately, the coordination of handling methods for all outside and internal plant material movement.

In every handling problem all operations aspects are considered. Whether to package for pallets, conveyors or other equipment, or not at all. Whether shipments are received or go by road, air, rail or water. Whether storage methods are easy and compact and whether handling equipment should be lift trucks, cranes, tractor trains, hoists, conveyors or other devices and combinations, and whether this all can be adapted to plant floor loads, aisles, elevators, grades, doorways and other characteristics.

Shipping and transportation are services regularly performed as the finished product starts for the consumer. Since shipping is usually last to affect the operating pattern, and to be affected by it, requirements for a smooth mesh in documentation, handling and transport are important.

The preparation of papers for domestic shipment, and the completion of forwarding arrangements for foreign shipments, are coordinated with delivery to carriers or movement by company operated trucks, trap cars or lighters. Bills of Lading are prepared and associated with instructions to ship, orders are consolidated where feasible, and carriers are notified.

The Binding Link

It can be seen that materials handling itself is the link which binds all the functions of an operations department. With integration it is possible at one time to launch a frontal attack on direct handling costs and to gather up a reduction of the extra costs existing on the fringes of the handling function in storage, traffic and transportation.

The principle of integration of the distribution and operations functions may thus be clear, but may not answer all the questions created by those organizations which place the responsibility for technical aspects of materials handling, packaging, storage or other such functions on a separate staff basis for analysis of methods and procedures.

With this arrangement the technical work becomes either the part time job of a large staff department or the full time job of a small one, and the methods and procedures developed are then turned over to the operating departments, sometimes to their great dismay.

With the manufacture or processing of a part or a product this may be a logical procedure, especially where many drawings, methods and details are involved, and continuous line—staff coordination is practiced.

Rarely, however, does adequate coordination of staff and line handling and operations functions exist, and this is because the functions are spread over several uncoordinated departments each serving and being served for its individual problems.

Although these functions represent from one-fourth to one-third of industry's total manufacturing cost the very coordination and direction accepted as essential to production is missing from these operations.

Integrated operations is the solution. Without it the manufacturer has fostered waste and inefficiency. With it he has made a vigorous effort to smooth the flow of the production pulse, and to reduce costs in an area always vulnerable to unnecessary and costly deviations.•

(Resume Reading on Page 24)

TWA offers More Shipping Space to Europe

Two ALL-CARGO Round-Trip Transatlantic Flights Weekly

TWA (Trans World Airlines) offers two transatlantic round-trip, all-cargo flights *direct* to Shannon and Paris . . . with regular "Speed-pak" service to England, Germany, Switzerland, Italy, Greece, Egypt, Israel, Saudi Arabia, Iran, Iraq, India, and now Ceylon.

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1. **Booking service** for shipments of 100 pounds or more . . . assuring on-time deliveries.
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3. **One-airline service** between 60 cities throughout the U. S. and 21 world centers abroad with a single air waybill expedites international shipments and simplifies handling.
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TWA-trained personnel are ready to serve you at all times. Be smart . . . save money . . . *insist* on routing your shipments via TWA. It's the modern way to get goods to market in a hurry . . . and at low cost. Phone your nearest TWA office today.

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ALL TWA FLIGHTS CARRY AIR MAIL AND AIR CARGO

Circle No. 110 on Card, Page 33, for more information

Long Distance . . .

(Continued from Page 25)

other; for example, to determine that the use of airfreight will permit the 50 per cent reduction in inventory as shown in the example above. Once this determination has been made, however, the decision can readily be made as to the wisdom of any proposed move by merely extending the figures to arrive at a rate of return on investment for each proposal.

When distribution costs are examined with respect to such a return on investment chart, it becomes possible to plot many hitherto unsuspected economies. For example, the part played by each function in distribution can be explored with respect to its overall effect on return on investment. The requirement for large investments in inventory can be readily assessed against the result it produces in turnover and, consequently, in return on investment while at the same time considering the effect on earnings.

Case Study in Drugs

A manufacturer of ethical drugs maintained that he could not afford to use airfreight for his west coast distribution because the $22 per 100 lb which it would cost him was greater than his existing profit. His products averaged about $6 a pound, and thus airfreight amounted to an extra expense of 3.7 per cent of sales which he claimed was more than his net profit.

It was finally agreed that distribution costs totaling over 4 per cent of sales would be saved by using airfreight, while the cost of securing these economies would be less than 3 per cent in added transportation expenses.

The possible use of airfreight aside, we are convinced that concerted inquiries and studies on the subject of distribution costs will bring great rewards for the firms willing to make the effort.

Product-Line Management

A rather recent development has been the growing acceptance of "product-line management" by such firms as G.E., General Foods, Heinz, Sylvania, and Crosley division of Avco. Under this concept of marketing, management authority and responsibility are delegated to product-line managers for net profit or profit contribution of the product-line concerned.

This management technique focuses attention on all aspects of production and distribution of a given product or group of products and thus encourages the detection and reduction of those distribution costs which are higher than they need to be.

Another major way in which distribution costs can be cut is by improving sales and marketing effectiveness. We see many opportunities for increasing such marketing efficiency go by the board because management is unable to decide in favor of the proposed course of action lacking a quantitative or factual appraisal. One of the big roadblocks is the conventional accounting system employed by most firms in which both variable and fixed costs are assigned to the product involved.

In such systems, the relationship between costs, volume, and profits cannot be readily ascertained since allocations of the constant costs depend upon an assumed volume of production. Any variation from the assumed volume results in over- or under-absorbed factory burden which so complicates the true relationship between costs, volume and profit that it is often impossible to determine the effect that changes in volume have on profits.

Airfreight, of course, has its biggest single appeal to businessmen as a marketing tool. To appreciate the truth of this, you need only imagine that all your customers and potential customers, wherever they may be located in the United States, are right here in your backyard—across town from your plant—as accessible as your closest neighboring customers.

We find inaction in many cases, however, because the firm has no figures with which to relate the extra costs of airfreight involved to the projected increase in volume which can be anticipated and only with such figures can a firm determine if the action is profitable or not.

There are many firms that do prepare suplemental accounting statements and break-even charts which provide these answers, but in many cases they are used only in price setting. Even more effective in providing a basis for management decision which depends upon the cost, volume, and profits relationship is the technique of direct costing.

Significant savings have been made in reducing materials handling costs, in cutting packaging and packing expenses, in reducing warehousing charges, in service and maintenance, obsolescence, finance, in selling and marketing, transportation, and in insurance. We have only begun to realize the great economies that are possible, however, and which exist in exploring the relationship between all these different and separate distribution functions.

This can be done when we begin to look at distribution as an inter-related group of functions and when we can understand and measure the effect of the interplay between these functions.

Jones and Lamson Machine Co. of Springfield, Vt., recently featured in a national ad, a case history showing the application of Operations Research techniques to a production scheduling problem of Johnson and Johnson. The problem was solved by a team of Operations Research scientists operating as a group with Arthur D. Little, Inc., of Boston.

The problem was to schedule production of a large number of lines and products to meet varying seasonal sales forecasts with minimum overtime and minimum tie-up of capital investment. The solution involved summarizing all of the total production and inventory (distribution) costs that were affected by the production schedule, and developing an equation to represent them.

$$C = \Sigma Cp(Pm) + \Sigma C_I(Im)$$

where

C = total cost

$Cp(Im)$ = cost of producing (in any given month) an amount of production Pm

$C_I(Im)$ = cost of carrying in inventory (in any given month) an amount of inventory Im

The Operations Research group measured all important factors, including many that had been thought impossible to measure. Then, using linear programming techniques, a production schedule was developed for minimum total cost. This new production schedule resulted in savings not only in production costs but in distribution costs as well. Costs of carrying inventory and overtime were reduced 56 per cent!

Apparel Study

American Airlines recently completed a study of apparel merchandising which shows that use of airfreight can cut markdown costs for certain ready-to-wear categories. Such savings as a percentage of sales vary between 1.4 per cent to 4.1 per cent for sportswear, 1.4 per cent to 4.2 per cent for blouses, 1.6 per cent to 4.9 per cent for dresses and 2.3 per cent to 6.9 per cent for suits.

We are convinced that distribution costs can be reduced. They will be cut if we bring to the task the same scientific methods and determined approach that industry has used in successfully reducing production costs.

The main job is to isolate these costs, find out what they are now, and then — using all our scientific skills—find economies in them individually, and, more important, find economies that can be made by knowing and controlling the relationships between all of the functions of distribution and the overall job of producing and distributing. •

(Resume Reading on Page 26)

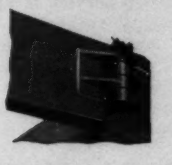
designed for faster, mechanical loading and unloading

TRAILMOBILE OPEN TOP TRAILERS

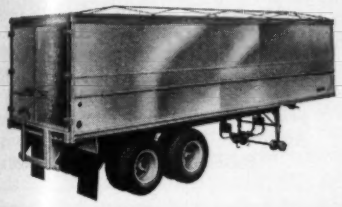
MODEL **OEP**

EXTERIOR POST OPEN TOP has extruded aluminum posts on outside for greater payload area inside. The OEP model will handle all kinds of cargo—crane or lift truck loaded—with efficiency and minimum maintenance.

TIE DOWN HOOKS or rails are conveniently located on all Trailmobile open top trailers. On the OEP and GA model, hooks are located on each exterior post or between corrugations to provide uniform tie down points. On other open top models tie down rails extend partly or entirely around trailer to keep the load fully covered with tarp. All tie down points can be easily reached from the ground.

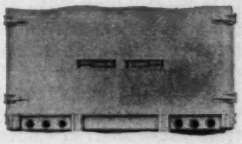


REMOVABLE HEADERS: are hinged at both ends for quick, easy removal. This facilitates cargo loading and unloading. Headers also provide extra side strength and rigidity.



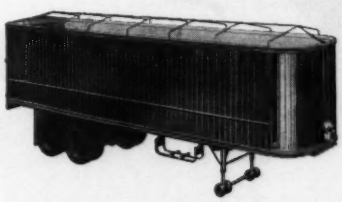
MODEL **OTA** AND OTS

SMOOTH PANEL OPEN TOP. Available with steel or aluminum side panels, bolsters and props, these models have unusual load carrying capacities; are available in partial or full open top. Concentrated load weights are distributed by the Trailmobile load distributor frame and exclusive "diamond-side" struts.

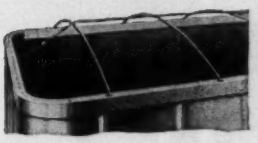


TWIN-LOCK DOORS have recessed locks and handles, positive locking; can be reached from the ground; provide double protection against accidental opening.

MODEL **OTC**

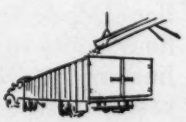


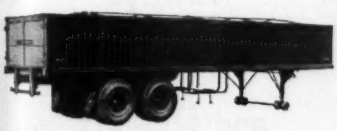
CORRUGATED OPEN TOP is an all steel trailer for the heavy jobs. Sides are corrugated to take rough handling. Continuous weld design makes this model ideal for hauling heavy scrap, bulk machinery, metal shavings, etc.



STEEL TARP BOWS are shaped to give tarp proper pitch for good drainage; recessed to hold ridge rope securely in position; are adjustable and removable.

MODEL **GA**





BULK CARGO OPEN TOP has sides of corrugated high-tensile steel. This versatile model does an outstanding job of hauling grain and other bulky loads. Its close-spaced corrugated steel sides add to body rigidity.

All new Trailmobile trailers have as standard equipment the fully approved ATA connector case which permits the interchange of any tractor with any new Trailmobile trailer. There's a place for the old-style connector, too, which lets operators use old or new tractors for spotting and interchange without time losses.

T/M TRAILMOBILE

The Trend is to **TRAILMOBILE**

PULLMAN

CINCINNATI 9, OHIO **BERKELEY 10, CALIFORNIA**

Friendly Sales and Service from Coast to Coast

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Controversial Leasing . . .

(Continued from Page 27)

The carrier must also require the driver to furnish a certificate of physical examination in accordance with Part 191 of the Motor Carrier Safety Regulations.

The regulations specifically forbid:

1. Authorized carriers to rent equipment with drivers to noncarriers unless such service is specified in their operating authorities.

2. Authorized common carriers to rent equipment without drivers to noncarriers. A noncarrier is defined by the ICC as "a person other than an authorized carrier."

Federal Court Appeals

Attacks were made upon the ICC rules in six suits filed by motor carriers and motor carrier associations, and by the Secretary of Agriculture in various Federal District Courts, seeking to enjoin the Commission's order putting the rules in effect. The District Courts for the Northern District of Alabama and the Southern District of Indiana denied the injunctive relief prayed for.

The cases came to the Supreme Court of the United States on appeals from these District Courts. The suits challenged the lawfulness of the Commission's order and rules governing truck leasing chiefly upon the provisions requiring a thirty-day period of control and the prohibition of compensation based upon division of freight revenue between the lessor and lessee.

These rules had the effect of abolishing trip-leasing, the real bone of contention, and the source, in the view of the ICC, of the abuses sought to be eradicated.

The Interstate Commerce Act, Part II, does not prohibit the use by motor carriers of non-owned equipment, and the Rules of the Commission under attack, do not prohibit such operation although they do materially restrict the freedom of lessors' and lessees' leasing practices.

The Commission's reason for its action was stated that a number of "satellite practices" directly affecting the regulatory responsibilities placed by the Interstate Commerce Act upon the Commission made it necessary in the public interest to restrict the leasing practices. These abuses included:

Leasing Abuses

1. The turning-over of freight by authorized cariers to owner-operators for operation over the routes and territories included in the certificates or permits of the former but not of the latter carriers;

2. The termination of relationship between the carrier and the lessee-operator at the termination of each individual trip;

3. The solicitation of traffic by exempt carriers to transport non-exempt traffic with blank forms;

4. The lack of control by the authorized carrier of the service, routes or other aspects of operation by the lessee-driver;

5. The use of interchange or lease arrangements to defeat the geographical or route limitations contained in the certificates or permits;

6. The making of contract or interchange arrangements after and not before the traffic was transported.

The Supreme Court of the United States in the opinion of the majority delivered by Mr. Justice Reed, with six Justices concurring, refused to consider the economic problems involved in the Commission's order and decided the case upon the legal considerations.

An article prepared by Leo T. Parker, DISTRIBUTION AGE legal consultant, and dealing with court decisions on leasing and other decisions affecting distribution costs will appear in an early issue of DISTRIBUTION AGE.•

(Resume Reading on Page 28)

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... Warehousing

(Continued from Page 19)

parison with earnings from manual handling have handicapped him.

Handling Equipment

Handling equipment used in Japanese warehouses today includes: Cranes, elevators, derricks, telphers, whip hoists, conveyors, stackers, and some fork trucks (See Box). The fork truck's popularity, in particular, has been curbed by the relatively high initial cost and the cost of palletization. Warehousemen estimate that 20,000 tons of goods are needed to cover the cost of one lift truck.

New and improved construction is especially slow in Japan. The existing storage rate does not meet the inflated cost of a new reinforced concrete building, nor does it compensate for the present high rate of interest.

The Transportation Ministry, in charge of the warehousing administration, has authorized a tariff on the basis of 800 yen for each tsubo each month, or 9,600 yen per tsubo annually.

The current cost of a reinforced warehouse is estimated at 90,000 yen per tsubo. Since interest rates run as high as 10 per cent, the warehouseman is left a prohibitive 600 yen per tsubo-year, out of which he must pay taxes, wages and dividends.

Stocks and Profits

Despite this situation, Japanese warehouses are showing a good profit and warehouse stocks are among the brighter lights on the Japanese market.

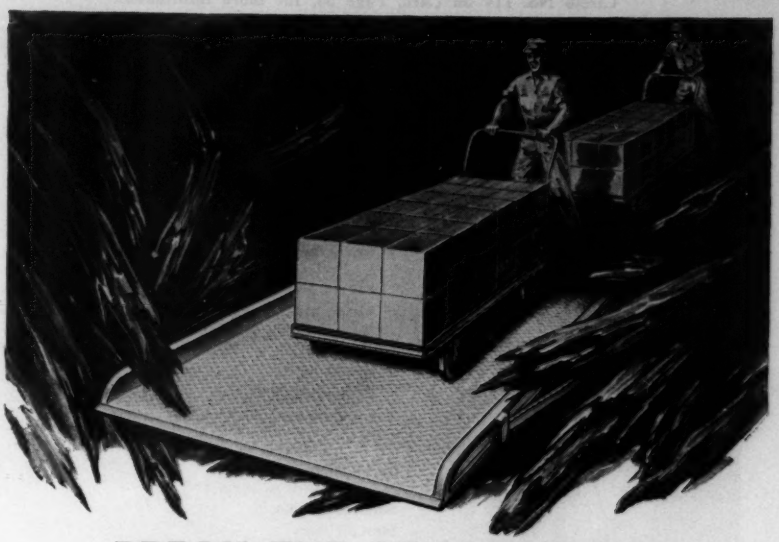
This is so, of course, because almost all of the Japanese warehouses now in operation are of an early date, and because the re-evaluation of post-war assets has not been completed.

To complete the paradox, inflation and the belated revision of the tax structure have depleted the reserve funds of most firms. It has upset their finances to such an extent that it is rare to find a company whose greater portion of capital is mostly its own.

It is common in Japan to find that 80 per cent of the hard worked profit is paid in taxes. This is reflected in the warehouse ownership picture. Only one-fourth of the 880,000 tsubos which have come into being since VJ Day is owned by companies established before 1945.

United States manufacturers can obtain names and addresses of Japanese warehousemen by writing to the Japan Warehousemen's Association, 1 Koamicho 2-chome, Chuo-ku, Tokyo, Japan. •

(Resume Reading on Page 20)



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Now! — *without capital expenditure* — clear away the costly bottlenecks in loading operations! Flash the green light to your shipping and receiving departments by speeding up the movement of trucks in and out of all loading areas. Like many other leading companies, you, too, can effect substantial cost savings and greatly increase loading capacity by installing Magliner Magnesium Dock Boards. To get the benefits of fast, smooth, low-cost loading investigate magnesium *light*, magnesium *strong* Magliners for your docks today.

MAGLINER *MAGNESIUM* DOCK BOARDS
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These low-cost units are now available in 34 standard models, capacity-rated up to 2,000 lbs. (axle load). Constructed like a bridge, these Standard Magliner Boards insure absolute mechanical safety to men, equipment and load. Because Magliners are easily handled by one man, many commercial carriers use them as standard equipment in trucks to speed up transfer operations at all loading stops. Write today for information bulletin DB-203.

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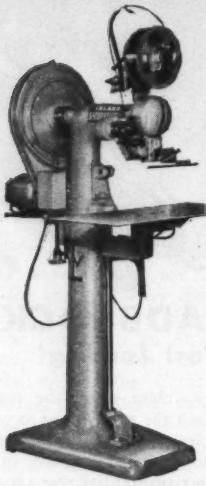
Circle No. 113 on Card, Page 33, for more information

Circle No. 114 on Card, Page 33, for more information

There's an Inland SPEED STITCHER for every stitching job

No other stitcher can offer all these features



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Circle No. 115 on Card, Page 33, for more information

. . . Odd Shaped Parts

(Continued from Page 32)

The more irregular the shape of a product, obviously, the more difficult the packaging problem. The experienced packaging engineer will always come up with a design that is simple and as low in cost as possible, no matter how odd the shape of the product. Some say, when in doubt, use more than enough cushioning, bracing, and strapping. I say remove as much of the doubt as possible, and apply sound engineering principles to the design of your packages.

Methods Used

Many methods are used for packaging odd-shaped products at Studebaker. Wood boxes, plywood boxes, crates, wire-bound containers, fiber containers, corrugated boxes, latex seal envelopes, polyethylene bags, padded shipping bags, and excelsior pads are all utilized.

Each problem of packaging is a separate and distinct problem—that is where the packaging engineer shows his ability to make use of the best type of pack for the particular item under study. If more than one method presents itself, it is at this point that cost enters the picture and is usually the deciding factor.

Wire-bound Boxes

Some heavy items requiring protective packaging are packed in wire-bound boxes. The rugged construction and simplicity of the rock fastener closure make this box particularly adaptable for re-use. If one is returning a part on an exchangeable basis, this type of box provides the means for the return trip. Any type of saddle or bracing can be incorporated, as well as the use of the interior cleats as a hold-down device.

Cartons

For years gas tanks had a long integral non-detachable crooked spout attached, which was a never-ending problem. We tried shipping them without packing. Then we tried wrapping them. Next we tried boxing them. This was not too successful because the carton was large and expensive, and storage space required was excessive.

Because of the packaging problem our design engineers, at our request, redesigned the tanks to include a detachable spout, which we ship unassembled. This illustrates that an odd-shaped part doesn't always have to remain one.

The pack finally developed was just a simple carton with roll-up pads slipped in on two sides with the tank flange slipping down in the groove between the pads. The spout is included loose in the carton.

Special interior packing for odd shapes can and is provided for a large portion of all corrugated cartons. These interior pieces are more or less standard in form and need to be varied only in size. They consist of partitions, liners, pads, corner pieces, creased or scored sheets, creased and slotted sheets, tubes, and trays.

There are many other devices—in fact, they are limited only by one's imagination. Where support is not possible at critical points by standard-shaped pieces, then die-cut sheets, corner-cut sheets, and built-up packing can be specially designed either by the packaging engineer or by the carton vendor's engineering department.

Mechanized Packaging

Mechanized packaging equipment has been used for some time and is doing a good job on our small, high-sales-volume items, such as pistons, connecting rods, timing gears, and kingpins.

The operation is simple and quite automatic. Parts are inserted into surface-printed solid kraft folding-box containers and then placed onto the conveyor with flaps open. The carton then passes through a mechanism that glues the top and bottom flaps, closes them and confines the closed carton between belts, and carries the carton for a distance sufficient to dry the flaps.

Continuing on, it passes through a printer. As it leaves the printer, the carton is manually packed into a standard quantity pack and placed onto pallets ready for transportation to the storage area. The machine has varying speeds but is usually operated at a rate of 1,500 units an hour.

Wrapping

Most automotive sheet metal parts, such as fenders, hoods, deck lids, and doors, have gone through about the same evolution during the past 30 years. In the early years these sheet metal parts were finish-painted at the factory and carefully packaged in nailed wood boxes and, in some cases, crates.

Some time prior to World War II, parts were supplied to dealers in prime finish, since it was found more practical and economical to paint them locally. War shortages brought about a tendency to ship these items without any packing whatsoever. Following the war we resumed protective packaging of these items. A new study of methods and materials was undertaken. It was established that variable methods were desirable for this general type of material.

Some of our fenders lend themselves to wrapping with an excelsior pad tied with rope. Others cannot be wrapped because of their shape. These particular fenders are more or less

(*Please Turn Page*)

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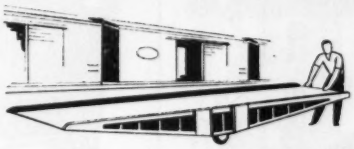

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Magcoa engineering and manufacture converts light-weight magnesium into a rugged, heavy-duty Yard Ramp . . . braced like a bridge . . . tailored to your specific load requirements. Capacities to 16,000 pounds in five basic sizes—or a "special" for unusual requirements, delivered with usual Magcoa promptness, thanks to mass production methods.

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Company_____

Address_____

City–Zone–State_____

Circle No. 116 on Card, Page 33, for more information

. . . Odd Shaped Parts

(Continued from Preceding Page)

egg-shaped, with the bottom open. Every attempt to wrap them was unsuccessful, and we had to resort to a carton of "boxcar" size.

Some must go into a long narrow carton; and, in order to get the support necessary, we adopted a heavier-test board than is normally employed rather than use inserts.

Hood packaging seems to fall logically into an excelsior-pad wrap. For the many different types of hoods we supply, only two sizes of pads are required. The pad is secured by using about 10 barbed steel clips that are placed around the edge of the hood over the pad. Deck lids are treated in a similar manner.

Doors are partially wrapped. The bottom section is packaged with a pad; the top window section is left unwrapped. This has the advantage of letting the shippers know what the item is and that it must be handled with some care. Damage losses have been materially less than the excess cost of the carton.

Fiber Cans

Camshafts are of such a nature that a special package is necessary to protect the part physically and to prevent corrosion.

The package used is a three-piece telescope fiber can with metal ends. The inside of the can is laminated with a VCI coated paper. This method of corrosion prevention is very effective.

Collapsed wire-bound pallet boxes are sent to the can manufacturer who assembles them and fills them with a pre-determined number of fiber cans. The pallet boxes then become a materials-handling load, and as a result the cans are not handled at any time by hand.

Crates

Roof tops are one of the hardest items we have to store and ship. Our engineers developed a light-weight crate made out of 1- x 3-in. lumber using ⅜ x 3-in. resawn hardwood diagonals. The crate measures 10 x 5 x 2 ft although it looks flimsy, it has the necessary rigidity to withstand shipping hazards. The roof top is bolted to the bottom of the crate and is securely fastened. No other protection is necessary.

By use of this method we have found that the carriers handle the crate with an adequate degree of care. Our damage claims have been reduced to practically zero.

Steel Strapping

Certain automotive parts which do not have critical surfaces exposed may safely be strapped together without risking injury. Items like exhaust pipes and wheels are in this category. We bind them together in compact unit loads which are easy to handle and easy to load and which require little space in shipment or instorage.

Chassis wheels are rather hard to handle. Originally we received them loose from the manufacturer-stacked in cars or trucks that took hours to unload since they had to be individually handled. Our problem was not one of protection but one of materials handling; and, as much of our material moves on pallets, we devised a pallet that would hold five wheels to a layer —four in a corner, one in center.

The pallet has a 1- x 1-in. rail around the edge to confine the first layer of wheels. They are stacked five layers high with a 100-point solid fiber slip sheet between and a frame made out of quarter-inch resawn lumber for the top. Only two steel straps need to be applied to confine the pack.

Engine Boxes

Engines were originally sold with the oil pans assembled and, in most

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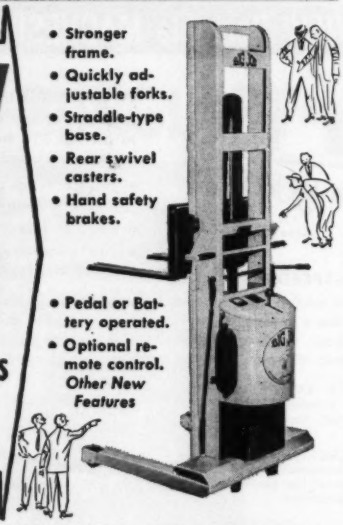

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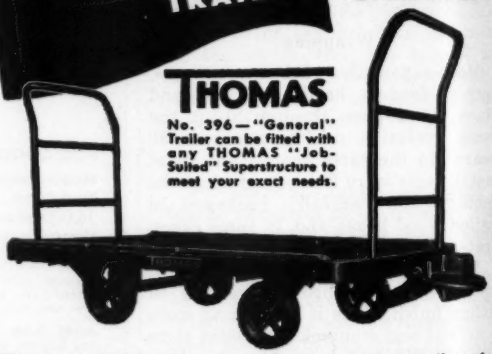

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ases, without the cylinder head. The packing problem resolved itself into one of providing a cradle to set the engine and a wooden valve cover to protect the exposed valves on top, which cover was secured by the use of two steel straps over the exposed valve cover and through the cradle.

While this type of packaging involved a relatively low cost, to some degree there was exposed to damage. In order to eliminate risk of damage, we employed a skidded plywood box which completely enclosed the engine, thus providing maximum protection against impact damage and the risk of having any dust or foreign matter invade the internal part of the engine.

While the cost of the box proper is greater than the cradle previously used, offsetting economies were realized in the packaging operation in that it was a simple process to remove the engine from the assembly line and insert it directly into the package.

Additional Economies

Further economies resulted from the elimination of applying costly corrosion preventives. Certain collateral and important benefits accrued. It permitted the elimination of the oil pan assembly, thus lowering the cost of the engine to the dealer and the ultimate consumer, since, in most instances, the original oil pan on the replacement engine was re-usable.

Of greater significance was the fact that the removal of the component made it possible to provide a higher degree of interchangeability of given basic engines than was previously the case.

Export Boxes

The continual growth in our export business has created a demand for crate and box material of better quality than is normally used. We have solved this problem by turning to the use of plywood.

Plywood has become one of the leading materials now used by many in the wooden box and crate industry. Sheets or panels vary and can be had in many sizes, although the most common size is 48 x 96 inches. Nearly all container-grade plywood is made according to joint Army-Navy Specification 139.

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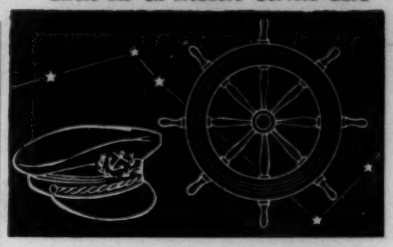
(Resume Reading on Page 33)

Circle 119 on Readers' Service Card



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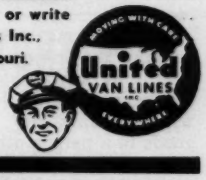

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WITHIN THE LAW

By Leo T. Parker
Legal Consultant,
Distribution Age

WAREHOUSING

A reader asked this question: "If the owner of stored goods receives from a warehouseman a negotiable warehouse receipt and delivers the receipt as collateral to one who loans him money, can the warehouseman without any liability deliver the goods to the present holder of the negotiable receipt?"

According to a late higher court decision the answer is no. This court held that a warehouseman is liable for conversion if he wrongfully or without authority delivers stored goods to a person other than the legal owner, irrespective of presentation of negotiable warehouse receipts.

For example, in N—— Match Co. v. E—— Storage Co., 58 S. W. (2d) 797, it was shown that the owner of merchandise stored it in a warehouse. Without authority of the owner of the goods the warehouseman delivered the merchandise to the holder of negotiable receipts who had taken them from the owner of the goods as collateral for a loan. In holding the warehouseman liable for conversion, the court said:

"The title to the converted property had never passed. The record does not bear out the charge of negligence against plaintiff (owner). It discloses the exercise of due and reasonable care on its part. Its agent sought repeatedly to get possession of the goods, but was put off by reasonable and plausible excuses and by promises that the goods would be delivered in a few days."

Can warehouseman avoid liability by having watchman testify when fire damages goods

A reader asked, "If fire damages goods stored in a warehouse, can the warehouseman avoid liability by having the regular watchman testify that he was on the premises when the fire started and that neither the warehouseman, nor his employes were in any manner liable, responsible or negligent?"

The answer is "no," because a court will not ordinarily consider testimony of a watchman which is intended to relieve the warehouseman from his usual liability, by conclusions of the watchman.

In C—— Co. v. J——, 10 S. W. (2d) 1040, the owner of stored goods destroyed by fire filed suit against the warehouseman for damages alleging that the latter's negligence caused the fire.

The warehouseman attempted to avoid liability by introducing the night watchman's testimony relative to the cause of the fire. However, the court refused to consider the night watchman's testimony, saying:

"The court properly excluded the night watchman's opinion as to the cause of the fire. This was not a matter of expert testimony. The watchman, of course, could testify to every fact within his knowledge upon which an opinion might be based, but his conclusions thereon were not competent testimony."

Why is warehouseman's liability greater when he moves stored goods to another location?

A warehouseman asks: Why is a warehouseman held to a greater liability when he moves stored goods to another warehouse or another location in the warehouse?"

It is true that few warehousemen realize the automatically increased liability for loss or injury to stored goods which are removed from one location to another without obtaining consent of the owner of the goods. This rule of law is based upon the established fact that breach of a contract arises where the warehouseman fails to store goods in the agreed location, unless a subsequent or supplementary contract is made with the owner of the goods by the terms of which the latter agrees that his merchandise may be transferred and stored in a different warehouse, or another location in the same building.

The leading case on this subject is McC—— v. W—— Co., 102 N. W. 873. Here a warehouseman agreed to store goods in a specified warehouse building Later he removed the goods to another building without notifying the owner of the stored goods or obtaining his consent. The goods were destroyed by fire without any negligence on the part of the warehouseman, or his employes.

Notwithstanding the law that a warehouseman who exercises "ordinary" care to safeguard stored goods is not liable for loss or injury to the goods, the court promptly held the warehouseman liable, and said:

"When goods, which have been removed by the bailee (warehouseman) from an agreed to another place of storage without notice to or consent of the bailor, are destroyed by fire, the bailee is liable in an action at law for the reasonable market value of the goods. The bailee may not, to suit his whim or interest, move the goods to a new place, and, if the goods be destroyed, refuse the bailor his property and its value."

The fact that the warehouseman moves the stored goods to another location which is safer than the original place where the goods were stored does not relieve the warehouseman from being liable as an insurer.

Another reason why warehousemen should never transfer stored goods from one location to another, without obtaining the consent of the owner, is that an insurance policy held by the owner may be invalidated.

For instance, in L—— v. D——, Q. O. Div. 210, it was disclosed that a warehouseman contracted to store certain goods at a particular place but he warehoused a part of them at another place where, without negligence on his part, they were destroyed.

The owner had insured the goods giving the place where the warehouseman contracted to warehouse them, and in consequence of their removal the insurance policy was held void. In a suit by the owner against the warehouseman to recover the value of the goods, the court held the warehouseman liable.

Other higher courts have held that although the warehouseman notifies a customer's insurance agent that the insured goods are being transferred to another location, the warehouseman is not relieved from liability as an insurer unless he is positive that the insurance agent makes the changes in the customer's insurance policy, and by authority of the owner of the goods.

For example, in C—— v. W——, 51 N. W. 227, it was shown that a warehouseman, without obtaining consent of the owner, transferred stored goods to a different warehouse. The warehouseman knew that the owner had insured the goods and he notified the insurance agent to change the policy to conform with the new location of the merchandise.

(*Please Turn to Page* 80)

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(Continued from Page 15)

Legislative Box Score

Much of what the recently adjourned Congress did in way of legislation won't show up until next year. Direct tax relief action was postponed until next session. But Congress did lay the groundwork for a balanced budget and tax cuts by chopping $13 billion from the so-called Truman budget and setting a cut-off date (next June) for heavy foreign aid which should mean an additional $5 billion saving. Here is a brief summary of major legislative action affecting distribution industries:

Excess profits tax extended through Dec. 31. With its expiration is scheduled a 10 per cent drop in corporate taxes, and reversion to lower rates of many excises. Complete overhaul of tax structure is promised for next session.

Defense Production Act was extended for two years after throwing out all government control over materials, prices and wages, retaining only military priority authority for getting needed defense materials.

Reconstruction Finance Corporation was killed, given one year to wind up its affairs. Loan power of RFC was transferred to newly created Small Business Administration. Loan authority is curtailed to $275 million in all, to $150,000 maximum for any one loan.

Reciprocal trade agreement power was extended for one year pending completion of world trade policy study. New legislation simplified handling of imported merchandise.

Government was authorized to sell its 28 synthetic rubber plants to private industry under guarantee that capacity will be maintained as a defense precaution.

Authorization was granted for government mortgage insurance on new merchant vessels; appropriations were voted to cover $75 million or so in operating subsidies for steamship lines; several bills authorize shipment abroad of food surpluses, including 100 million tons of wheat to Pakistan, one-half of which must be shipped in United States flag vessels.

Authority was re-established for government inspectors to enter any and all factories or plants where foods and other commodities covered by the Pure Food and Drug Act are processed or packaged. Courts had held that this had not been clearly provided in previous legislation.

Safety Activity

Pressure by state officials, trucking and other trade associations again beat off attempts to handcuff the ICC's motor carrier safety work by denying funds for the purpose. Restrictive wording was thrown out of the ICC appropriations bill before final passage. Main reason for opposition is that some congressmen believe the Bureau of Motor Carriers duplicates work by the states in this respect.

End of this annual hassle may be in sight. Reorganization of the ICC under the Wolf plan is supposed to take place this year. This is expected to result in combining all safety work, lumping railroad, highway and other carrier safety activity under a single division.

(Resume Reading on Page 17)

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Within the Law . . . .

(Continued from Page 54)

The agent carelessly forgot to correct the policy, and the owner sued to recover from the warehouseman the value of the goods which were subsequently destroyed by fire. In holding the warehouseman liable, the court said:

"There was testimony on the part of the defendant (warehouseman) that soon after the removal of the goods to the new warehouse, he had through the telephone a conversation with the agent of the insurance company. There was no evidence that defendant (warehouseman) had authority from plantiff (customer) to make any arrangement with the agent of the insurance company with regard to insurance."

Of course, if a warehouseman does not specifically promise a customer that his goods will be stored definitely in a stipulated warehouse or location in a warehouse building, and does not include this information in the warehouse receipt, the warehouseman's normal liability is not increased by his moving the goods.

For illustration, in K—— v. P——, 70 S. W. 1099, it was disclosed that a warehouseman had his office in a large fireproof building. He owned and maintained a warehouse building at a different location having a great fire hazard. The owner of merchandise went to the warehouseman's office and arranged for storage of his merchandise, believing that it would be stored in the building in which the warehouseman maintained his office. But the warehouseman store the goods in the old warehouse building. Later this warehouse burned, destroying the stored goods.

The customer filed suit on the grounds that the warehouseman was liable as an insurer because he did not explain that he intended to store the merchandise in the old warehouse building, not the one in which the contract for storage was signed.

However, in view of the testimony that the owner of the goods failed to prove that the warehouseman specifically promised or led him to believe that his goods would be stored in the fireproof building, the higher court reversed the lower court's decision which held the warehouseman liable.